My Mathematics

Grade 3

Name : ----------

Roll No. : ----------

School : ----------

Government of Nepal
Ministry of Education, Science and Technology
Curriculum Development Centre
Sanothimi, Bhaktapur

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Preface

Curriculum is the central guide of education and is essential for teaching and learning. A textbook is a main tool to deliver the curriculum. Therefore, the curriculum and textbooks are revised on a regular basis so as to make it relevant, practical, qualitative and useful for the overall development of a person in the changed context. 'My Mathematics Grade 3' is developed to address the main aim of the Basic Education; developing the fundamental skills of basic literacy and life skills in addition to arousing the interest in arts and aesthetic value. It is aligned with the intent and guiding principles carried out by the National Curriculum Framework for School Education 2076; and is developed in an integrated manner in accordance with the new Basic Level Mathematics Curriculum, 2076.

This textbook initially written by Prof. Uma Nath Pandey, Mr. Ramesh Prasad Awasthi, Mr. Bishnu Prasad Paneru and Mr. Jagannath Adhikari. This book has been translated by Mr. Ram Chandra Dhakal. The contribution made by Director General Ana Prasad Neupane, Prof. Dr. Ramji Prasad Pandit, Ms. Pramila Bakhati, Mr. Ram Hada, Ms. Nirmala Gautam and Mr. Keshavraj Phulara is remarkable in bringing the book in this form. The illustrations in the book are done by Dev Koimee and the layout was designed by Mr. Khados Sunuwar. The Curriculum Development Centre extends sincere gratitude to all of them.

The textbook is a primary resource for classroom teaching. Considerable efforts have been made to make the book helpful in achieving the expected competencies of the curriculum. Curriculum Development Centre always welcomes constructive feedback for further betterment of its publications.

2078 B.S.

Curriculum Development Centre
Sanothimi, Bhaktapur

Table of contents

Lesson 1

Time 1

Hour and Minute

While Saroj and Kamal were discussing to see the time in the clocks given below, Ramita came and gave the following information.

	The short hand is at 10 and the long hand is at 12. The time is 10 o'clock. It is 10:00 on this clock.
	The short hand is in between 3 and 4 and the long hand is at 6. The time in this clock is 30 minute past 3. It is also called half past 3 and written as 3:30.
	The short hand is just after 7 and the long hand is at 3. Here, the time in this clock is 15 minute past 7. It is also called quarter past 7 and written as 7:15.
	The short hand is just before 6 and the long hand is at 9. Here, the time in this clock is 45 minute past 5. It is also called quarter to 6 and written as 5:45.
	The short hand is just after 11 and the long hand is at 4 units after 5 indicate 24 minutes. Here, the time in this clock is 24 minute past 11 and written as 11:24.

Observe the given clock and find the time.

The short hand is at ☐

The long hand is at ☐

It is ☐ o'clock.

The short hand is at ☐

The long hand is at ☐

It is ☐ o'clock.

The short hand is in between ☐ and ☐

The long hand is at ☐

It is ☐ past ☐ o'clock.

It is ☐ o'clock.

The short hand is in between ☐ and ☐

The long hand is at ☐

It is ☐ past ☐ o'clock.

It is ☐ o'clock.

Hour, Minute and Second

Read and discuss:

This clock has three hands. The shortest hand is an hour hand. The minute hand is long and thick. Long and thin hand is second hand. When the minute hand completes a turn, it is 60 minutes. When the second hand completes a turn, it is 60 seconds. When the minute hand completes one turn the hour hand covers only one unit.

1 hour = 60 minutes
1 minute = 60 seconds

In the above clock, the minute hand is at 9 and the hour hand is in between 4 and 5, just near to 5. The second hand is at 2 indicating 10 seconds. So, the exact time shown by this clock is 4 o'clock, 45 minutes and 10 seconds. It is written as 4:45:10.

Here, the minute hand is at four units after 8 indicating 44 minutes and hour hand is in between 2 and 3, just near to 3. The second hand is at four unit after 6 indicating 34 seconds. So the exact time shown by this clock is 2 o'clock, 44 minutes and 34 seconds. It is written as 2:44:34.

Hour, Minute and Second

Read and discuss:

In the clock given in left hand side, the minute hand is at two units after 6 indicating 32 minutes and the hour hand is in between 10 and 11. The second hand is at 8 indicating 40 seconds. So the exact time shown by this clock is 10 o'clock, 32 minutes and 40 seconds. It is written as 10:32:40.

The digital clocks are set to show the time at the national and international football and cricket stadiums and banks. Discuss and write where you have seen the clock to show the time.

Observe the given clock and write the time.

☐ hours, ☐ minutes

☐ seconds 4:40:30

☐ hours, ☐ minutes

☐ seconds : :

☐ hours, ☐ minutes

☐ seconds : :

☐ hours, ☐ minutes

☐ seconds : :

☐ hours, ☐ minutes

☐ seconds : :

☐ hours, ☐ minutes

☐ seconds : :

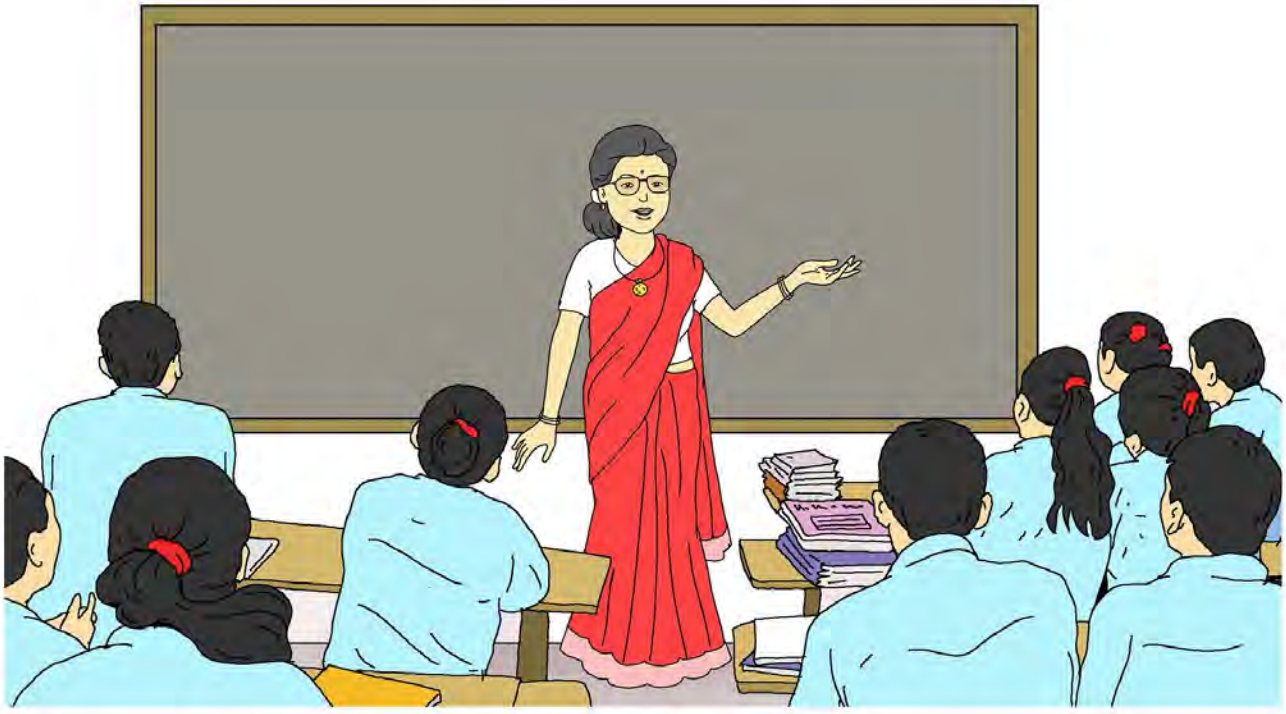
☐ hours, ☐ minutes

☐ seconds : :

☐ hours, ☐ minutes

☐ seconds : :

Observe the clocks given below and discuss:

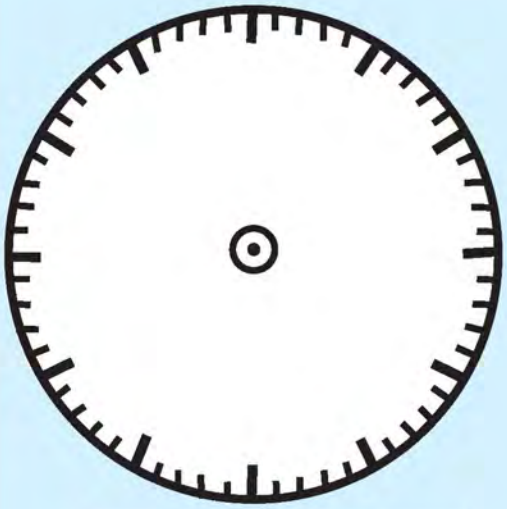


Teacher : Observe the watch, what time is it?
Student A : It is 10 hours 45 minutes and 30 seconds.
Student B : Digital clock shows 10: 45:30.
Teacher : (showing the clock) What time is it?
Student A : It is 11 hours 10 minutes and 25 seconds.
Teacher : How can we write it?
Student A : 11:10:25.

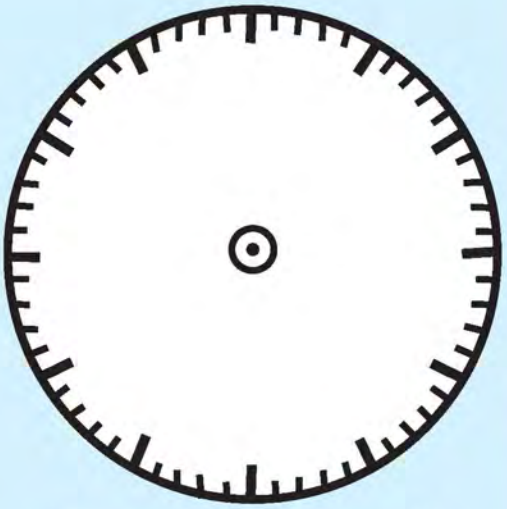
My Daily Life

Let's see. How much have I learnt?

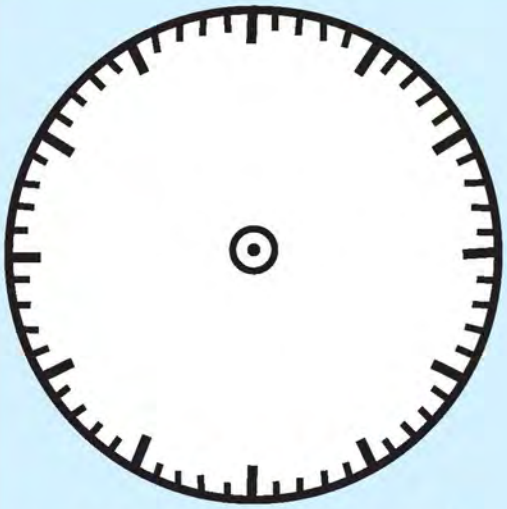
1. **Write the digits on the clocks given below. Make the hour, minute, and second hands to indicate the time given in the box.**



8:15:25



11:40:12



1:35:45

3:30:45

2. **Observe the given clocks and fill in the blanks with correct number.**

The hour hand is at ☐

The minute hand is at ☐

The second hand is at ☐

In this clock, it is ☐ hour ☐ minute and ☐ second.

In short form, it is written as ☐

The hour hand is at ☐

The minute hand is at ☐

The second hand is at ☐

In this clock, it is ☐ hour ☐ minute and ☐ second.

In short form, it is written as ☐

3. observe the given clocks and write the exact time.

☐ hours, ☐ minutes

☐ seconds ☐☐ : ☐☐

☐ hours, ☐ minutes

☐ seconds ☐☐ : ☐☐

☐ hours, ☐ minutes

☐ seconds ☐☐ : ☐☐

☐ hours, ☐ minutes

☐ seconds ☐☐ : ☐☐

Teacher's signature

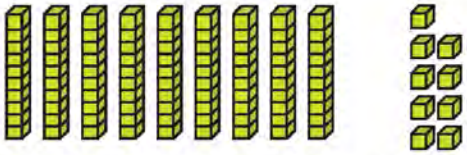
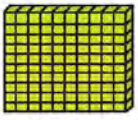
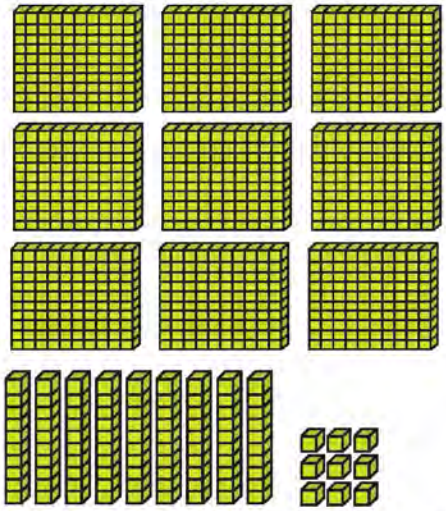
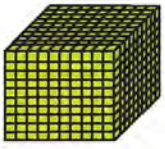
Parent's signature

Lesson 2 Five Digit Numbers

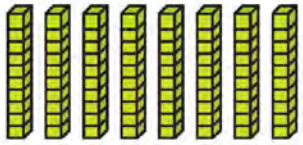
Four digit numbers in Hindu Arabic system

Tilicho lake is the highest lake in the world. It is situated in 4919 metres height from the sea-level. This lies in Manang district of Nepal.

Read and discuss.

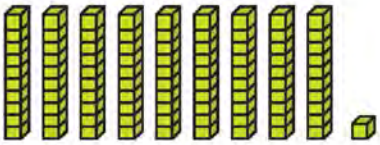
Greatest number	Add one	Smallest number
 one digit - 9 (nine)	 1	 two digits - 10 (ten)
 two digit - 99 (ninety nine)	 1	 3 digit number - 100 (hundred)
 three digits - 999 (nine hundred ninety nine)	 1	 four digits - 1000 (One thousand)

Count the blocks and write the numbers.



Tens	Ones
8	0

80 eighty



Tens	Ones

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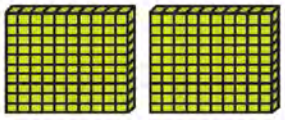

Hundreds	Tens	Ones

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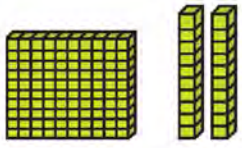

Hundreds	Tens	Ones

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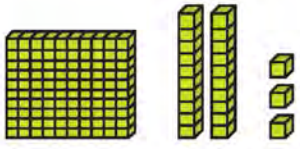

Hundreds	Tens	Ones

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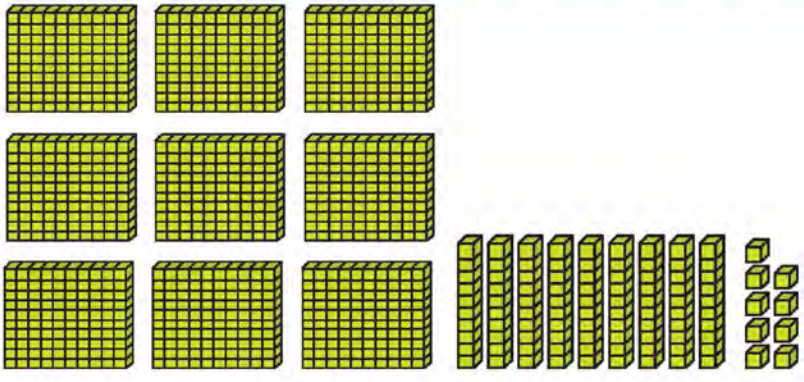

Hundreds	Tens	Ones

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Write the given numbers in numerals.

One hundred and ninety: ☐ Nine hundred and ninety one: ☐

Five hundred and fifty: ☐ Three hundred and sixty seven: ☐

Eight hundred and seventy five: ☐ Four hundred and twenty eight: ☐

Seven hundred and thirty five: ☐ Six hundred and forty three: ☐

Write the given numbers in words.

200	
145	
280	
256	
289	
485	
867	
947	
958	
999	

Hindu Arabic numeral system, numbers up to 1000 (in words)

Study the given table.

Devanagari Numeral	Hindu Arabic	
	Numeral	In words
१००	100	One hundred
२००	200	Two hundred
३००	300	Three hundred
४००	400	Four hundred
५००	500	Five hundred
६००	600	Six hundred
७००	700	Seven hundred
८००	800	Eight hundred
९००	900	Nine hundred
१०००	1000	One thousand

Write the following numbers in words.

In words	In numerals
Three hundred fifty	350
Four hundred fifty	
Five hundred fifty	
Six hundred eighty	
Seven hundred fifty	

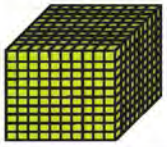
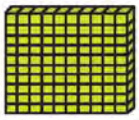
In words	In numerals
Eight hundred	
Eight hundred seventy five	
Nine hundred	
Nine hundred ninety nine	

Write the following Devanagari numbers according to the Hindu Arabic numeral system.

Devanagari	Hindu Arabic	
	In numerals	In words
३००		
५६०		
६०५		
६५५		
६७१		
८८०		
८९२		
९३४		
९५६		
९९१		
९९९		

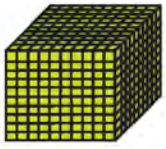
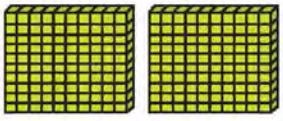
Four Digit Numbers

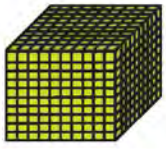
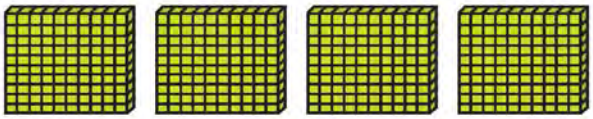
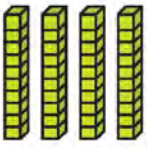
Let's count the blocks and write the numbers.

Thousands	Hundreds	Tens	Ones
			
1000	100	10	1
۱,۱۱۱			

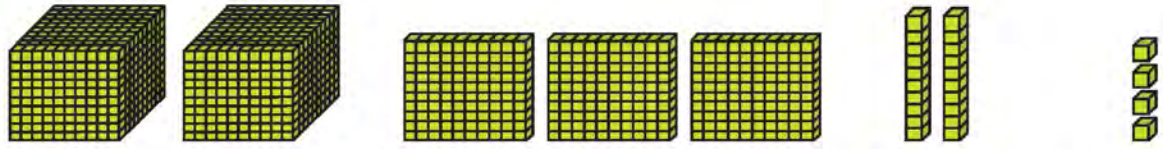
It has four places. Ones, tens, hundreds and thousands. Hundreds and thousands are separated by commas.

Count the blocks and write the number.

Thousands	Hundreds	Tens	Ones
			

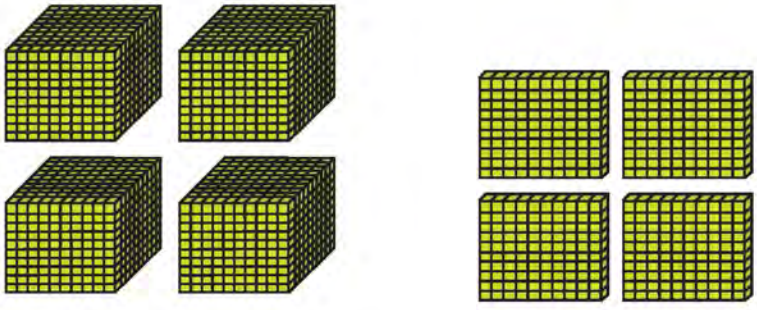
Thousands	Hundreds	Tens	Ones
			

Count the blocks and write the number.

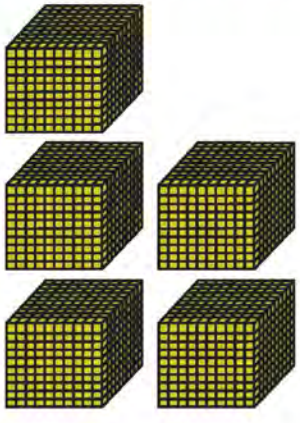


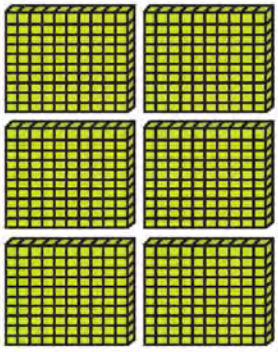
2 thousands 3 hundreds 2 tens 4 ones

2324



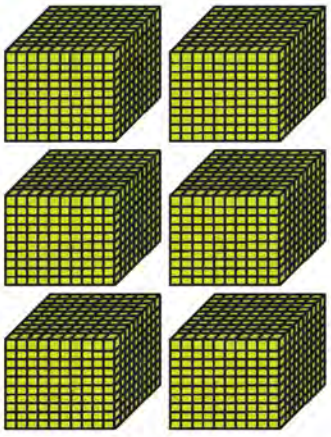
☐ thousands ☐ hundreds ☐ tens ☐ ones

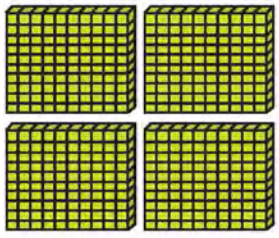




☐ thousands ☐ hundreds ☐ tens ☐ ones

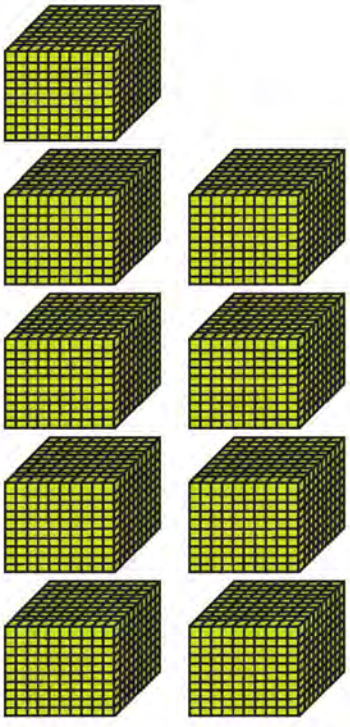
Count the blocks and write the number.

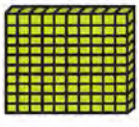


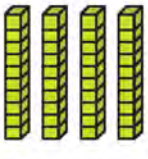


☐ thousands ☐ hundreds ☐ tens ☐ ones

☐







☐ thousands ☐ hundreds ☐ tens ☐ ones

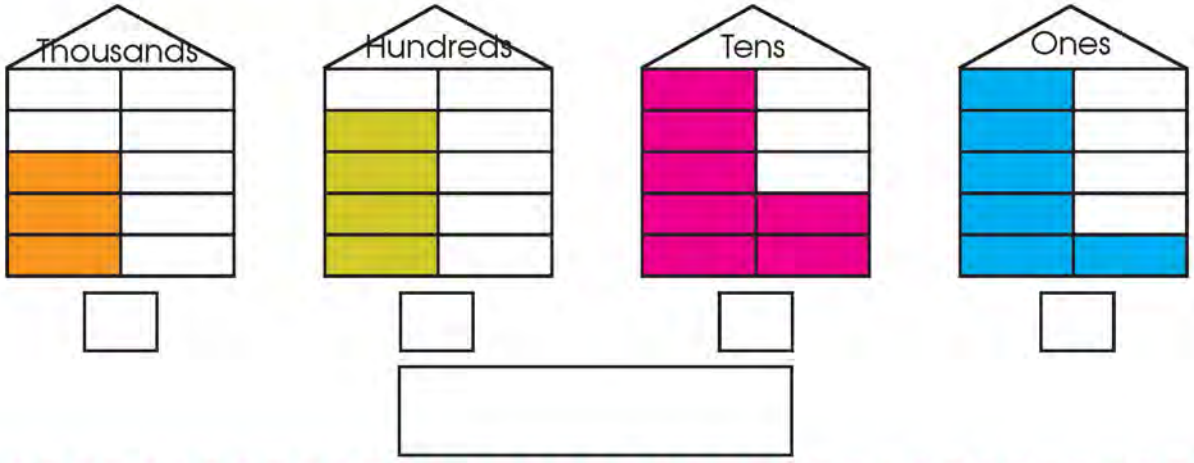
☐

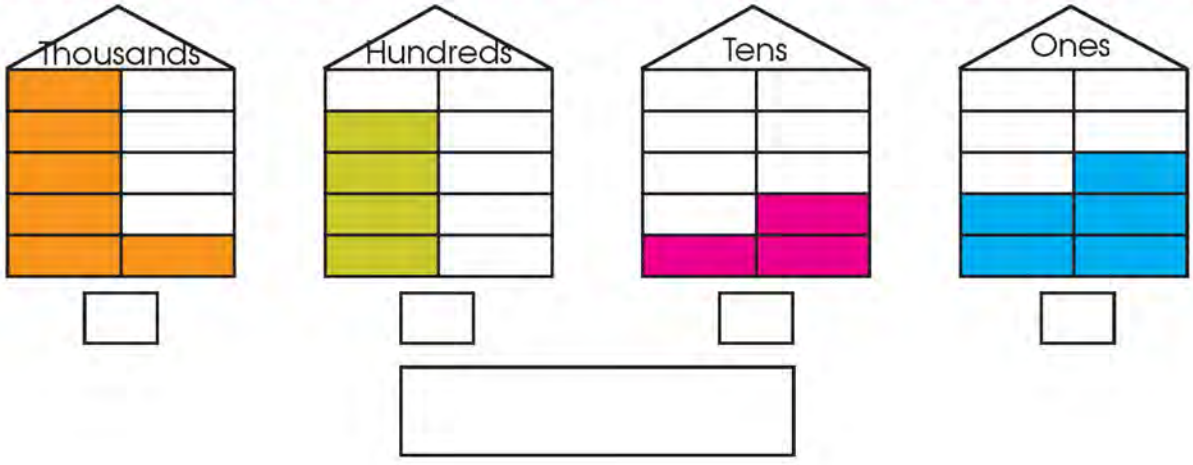
Count the coloured rooms in the number houses and discuss.

2 thousands 1 hundreds 5 tens 7 ones

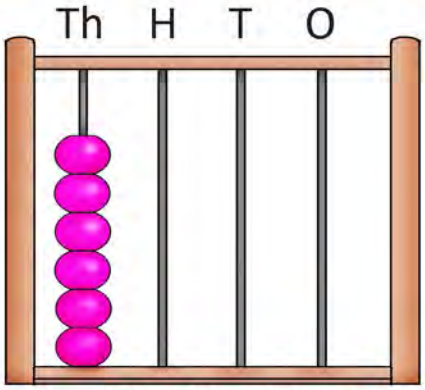
2,157

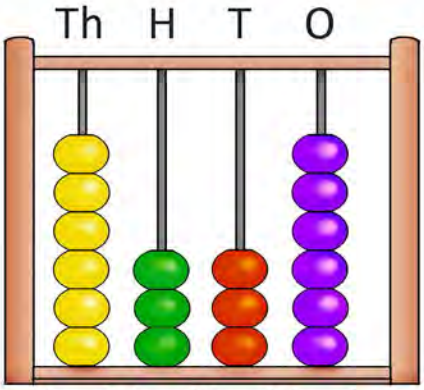
Count the coloured rooms in the number houses and write in the box.

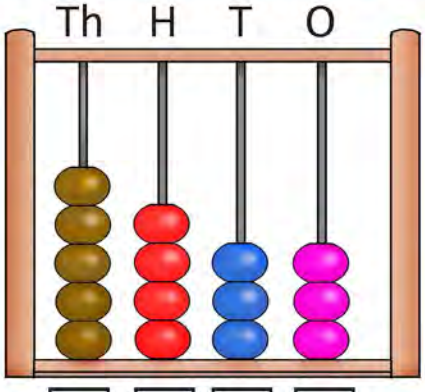


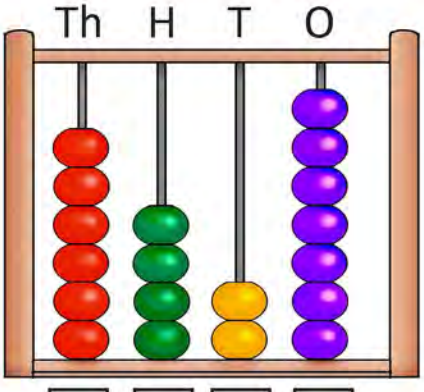


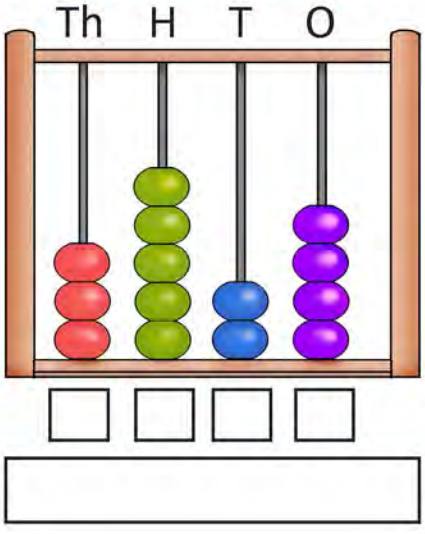
Observe the abacus, read and write the numbers.

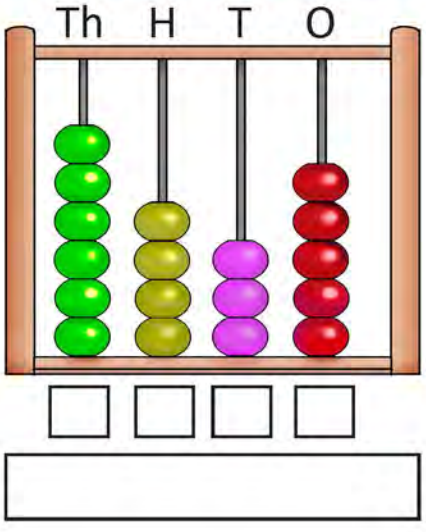




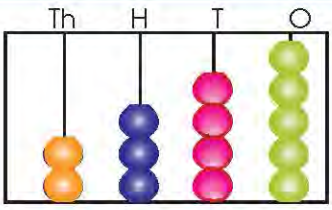






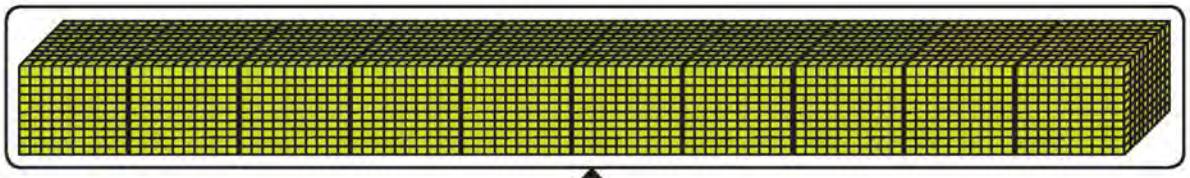


Put the given numbers in the place value table and show them in abacus.

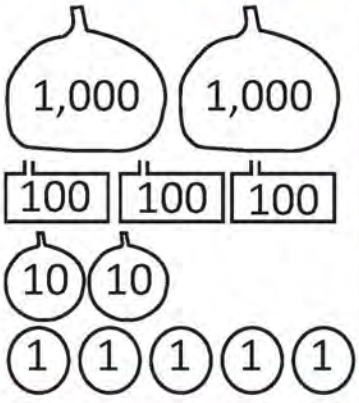
2,345	Th: 2, H: 3, T: 4, O: 5	
4,780	Th, H, T, O	
5,325	Th, H, T, O	
3,172	Th, H, T, O	
7,651	Th, H, T, O	
8,204	Th, H, T, O	
9,100	Th, H, T, O	

Five Digit Numbers and Place Value.

Discuss.



Ten Th



Ten Th	Th	H	T	O
1	2	3	2	5

The population of two wards of a rural municipality is given below. Write the numbers in place value table according to Hindu Arabic numeral system.

(a) 3452

Th	H	T	O

(b) 4367

Th	H	T	O

Put the given numbers in the place value table.

(a) 79053

Ten Th	Th	H	T	O

(b) 29581

Ten Th	Th	H	T	O

(c) 58025

Ten Th	Th	H	T	O

(d) 86373

Ten Th	Th	H	T	O

(e) 73091

Ten Th	Th	H	T	O

Write place and place value of circled digits.

5 4 (8) 7 5

Ten Th	Th	H	T	O
5	4	8	7	5

Place: hundreds Place value: 800

3 2 (6) 7 8 Place: ..... Plave value: .....

(5) 4 1 9 2 Place: ..... Plave value: .....

4 2 (8) 4 1 Place: ..... Plave value: .....

4 3 (0) 5 6 Place: ..... Plave value: .....

Read the given place value table and write the place and place value of digits.

Ten Th	Th	H	T	O
4	6	5	2	3

Hindu Arabic numeral: .....

Place of 4: ..... Place value of 4: .....

Place of 6: ..... Place value of 6: .....

Place of 5: ..... Place value of 5: .....

Place of 2: ..... Place value of 2: .....

Place of 3: ..... Place value of 3: .....

Ten Th	Th	H	T	O
7	2	0	1	9

Hindu Arabic numeral: .....

Place of 7: ..... Place value of 7: .....

Place of 2: ..... Place value of 2: .....

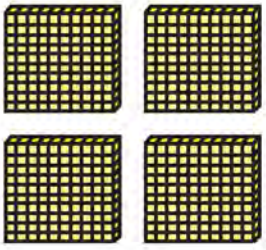
Place of 0: ..... Place value of 0: .....

Place of 1: ..... Place value of 1: .....

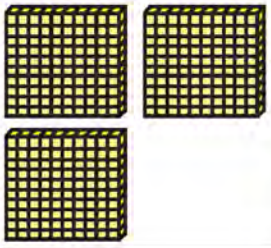
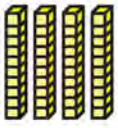
Place of 9: ..... Place value of 9: .....

देवनागरी सङ्ख्याङ्कन पद्धति

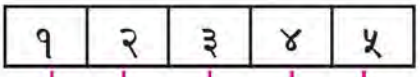
छलफल गर्नुहोस् ।

हजार	सय	दश	एक
			
३	४	०	५

देवनागरी सङ्ख्याङ्क: ३४०५

दश हजार	हजार	सय	दश	एक
				
१	२	३	४	५

देवनागरी सङ्ख्याङ्क: १२३४५



स्थान	स्थानमान
एक	५ एक = ५
दश	४ दश = ४०
सय	३ सय = ३००
हजार	२ हजार = २०००
दश हजार	१ दश हजार = १०,०००

तल दिइएको स्थानमान तालिकाको अध्ययन गरी देवनागरी सङ्ख्याङ् कमा लेख्नुहोस् । अङ्कहरूको स्थानमान पनि लेख्नुहोस् ।

१.

हजार	सय	दश	एक
२	४	६	७

देवनागरी सङ्ख्याङ्क: _____

२ को स्थान : ☐ २ को स्थानमान : ☐

४ को स्थान : ☐ ४ को स्थानमान : ☐

६ को स्थान : ☐ ६ को स्थानमान : ☐

७ को स्थान : ☐ ७ को स्थानमान : ☐

२.

हजार	सय	दश	एक
४	०	७	५

देवनागरी सङ्ख्याङ्क: _____

४ को स्थान : ☐ ४ को स्थानमान : ☐

० को स्थान : ☐ ० को स्थानमान : ☐

७ को स्थान : ☐ ७ को स्थानमान : ☐

५ को स्थान : ☐ ५ को स्थानमान : ☐

३.

हजार	सय	दश	एक
५	८	३	२

देवनागरी सङ्ख्याङ्क: _____

५ को स्थान : ☐ ५ को स्थानमान : ☐

८ को स्थान : ☐ ८ को स्थानमान : ☐

३ को स्थान : ☐ ३ को स्थानमान : ☐

२ को स्थान : ☐ २ को स्थानमान : ☐

४.

हजार	सय	दश	एक
८	४	९	५

देवनागरी सङ्ख्याङ्क: _____

८ को स्थान : ☐ ८ को स्थानमान : ☐

४ को स्थान : ☐ ४ को स्थानमान : ☐

९ को स्थान : ☐ ९ को स्थानमान : ☐

५ को स्थान : ☐ ५ को स्थानमान : ☐

तल दइएका सङ्ख्याहरूलाई देवनागरीमा स्थानमान तालिकामा प्रस्तुत गर्नुहोस् ।

(क) २,३४५

(ख) ५,६१०

(ग) ३०,४५६

(घ) ९५,२१५

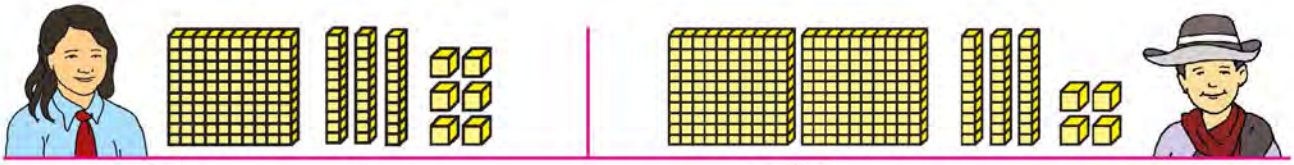
Lesson 3 Comparison of Numbers

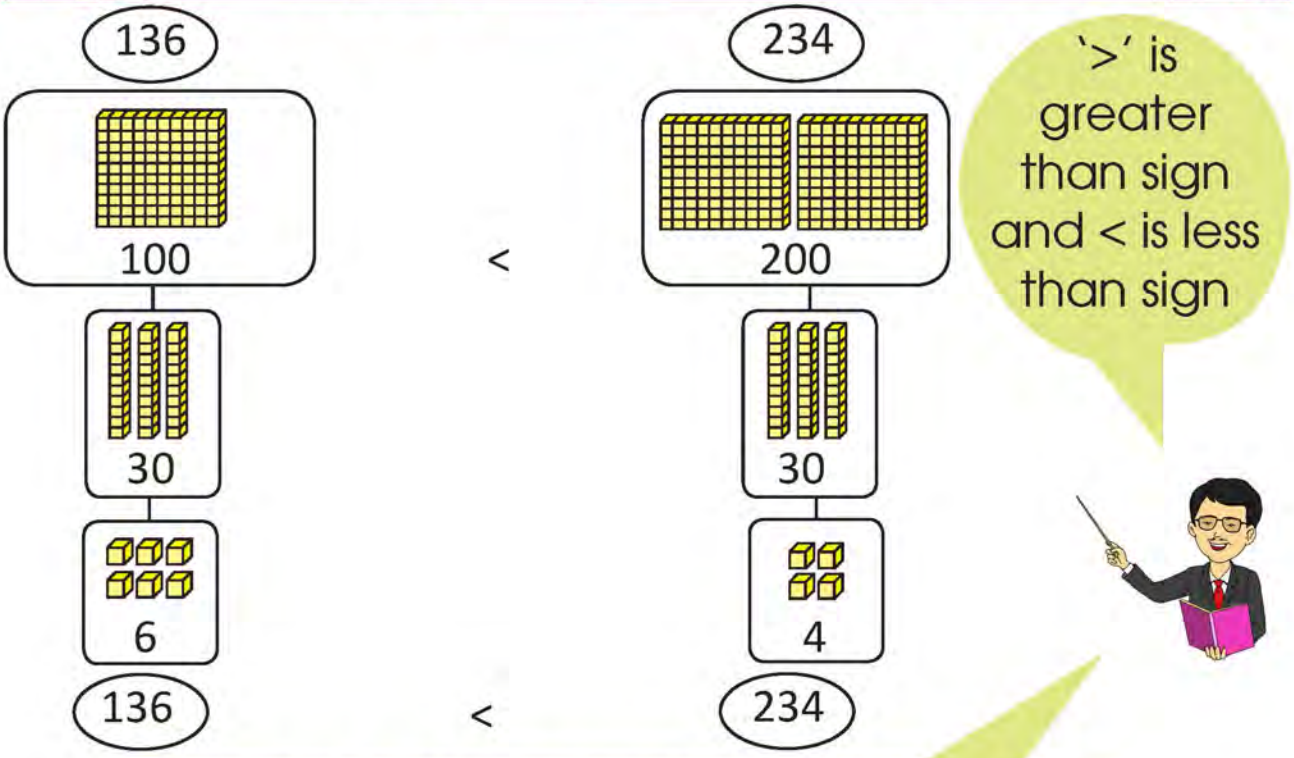
Discuss.

Use of =, < and > sign

Study and discuss

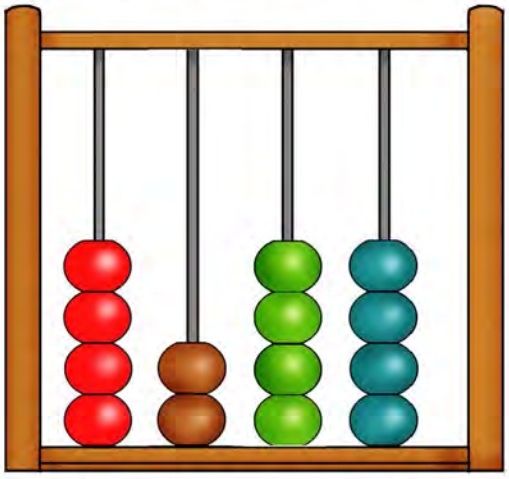
Nilam and Phurba have blocks of one, ten and hundred. They have been discussing, how many blocks does each have? Who has more blocks?



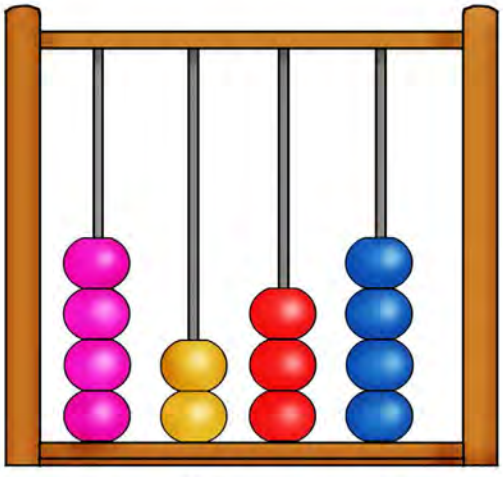


136 < 234, it is read as 136 is less than 234.
Nilam has less blocks than Phurba.

Compare:



Th	H	T	O
4	2	4	4



Th	H	T	O
4	2	3	4

4000 = 4000

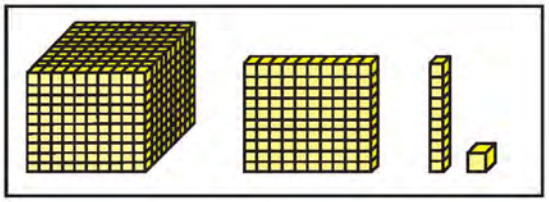
200 = 200

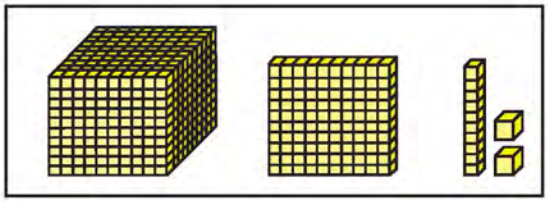
40 > 30

4244	>	4234

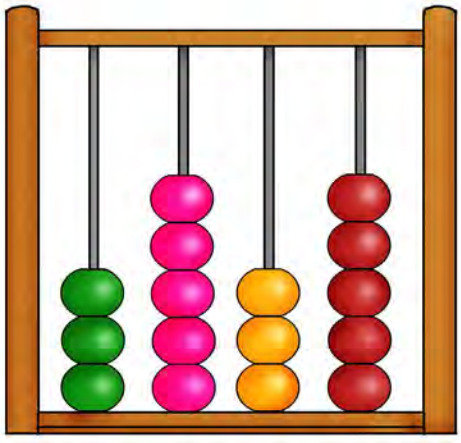
Compare numbers from greatest place.

Count the blocks and write the numbers. Put =, < or > sign in given circle.

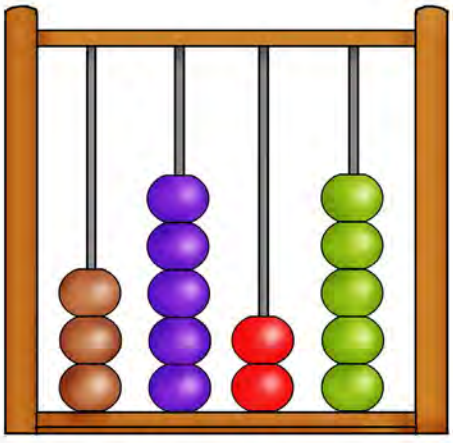




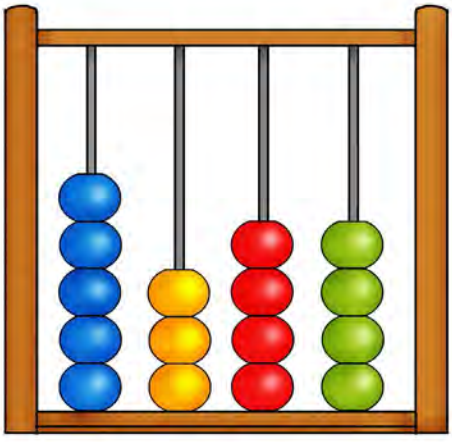
Observe the abacuses and write the numbers. Put =, < or > sign in given circle.



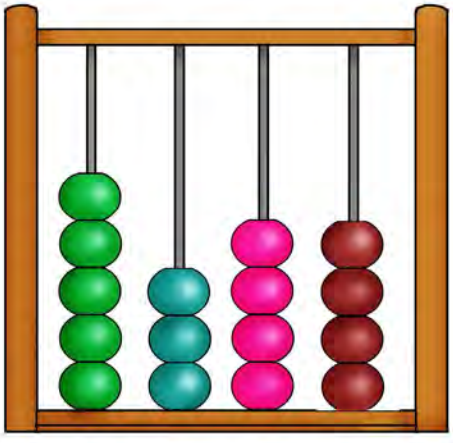
Th H T O



Th H T O

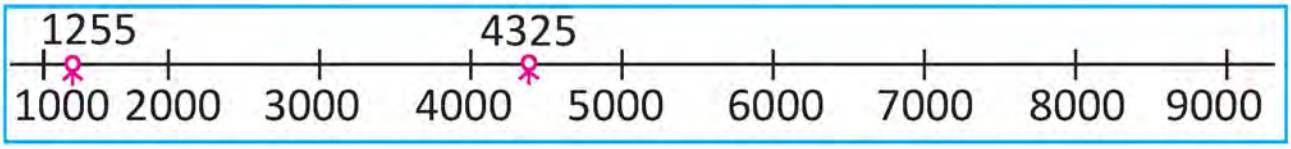


Th H T O



Th H T O

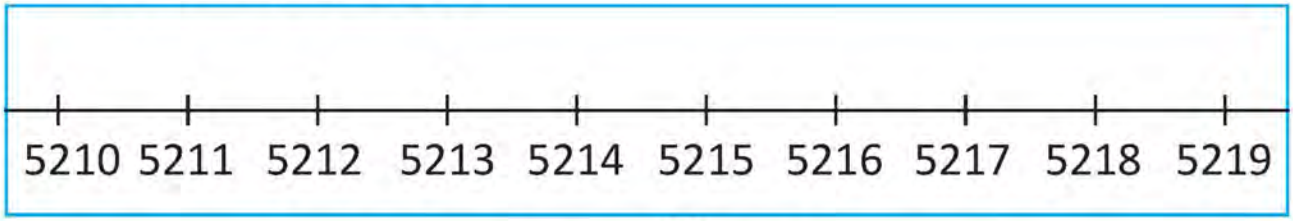
Discuss.



4325 (>) 1255 Why?

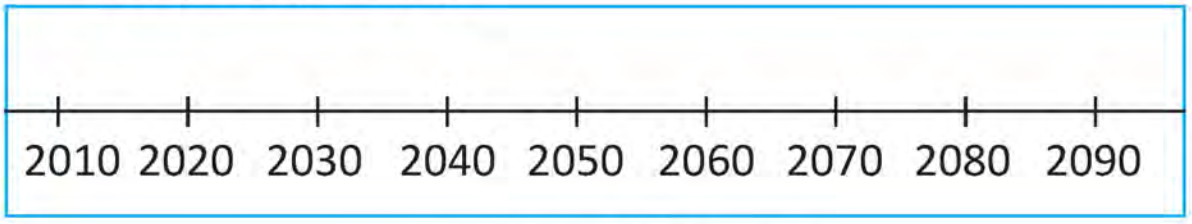
Put the given numbers in number line and compare them.

5213 and 5211



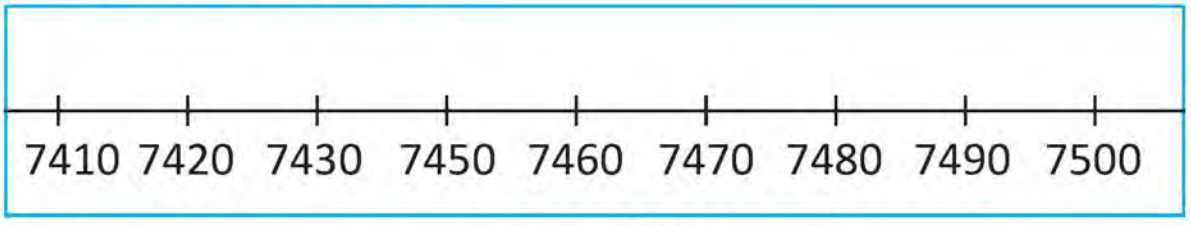
5213 ◯ 5211

2020 and 2040



2020 ◯ 2040

7435 and 7453



7435 ◯ 7453

Study the height of the following mountains of Nepal given in metres.


Makalu : 8,463


Kanchanjungha: 8,586


Dhaulagiri : 8,167


Annapurna : 8,091


Machhapuchhre: 6,993


Lhotse : 8,516


Manaslu : 8,163


Cho Oyu : 8,201

Write the height of mountains in the given box ☐. Compare their heights and put =, < or > sign in the given circle.

Makalu 8,463	>	Machhapuchhre 6993
Kanchanjungha 	○	Lhotse
Dhaulagiri 	○	Manaslu
Annapurna 	○	Cho Oyu

Lesson 4 Pattern of Numbers

Study the daily income of Nabaraj and discuss:

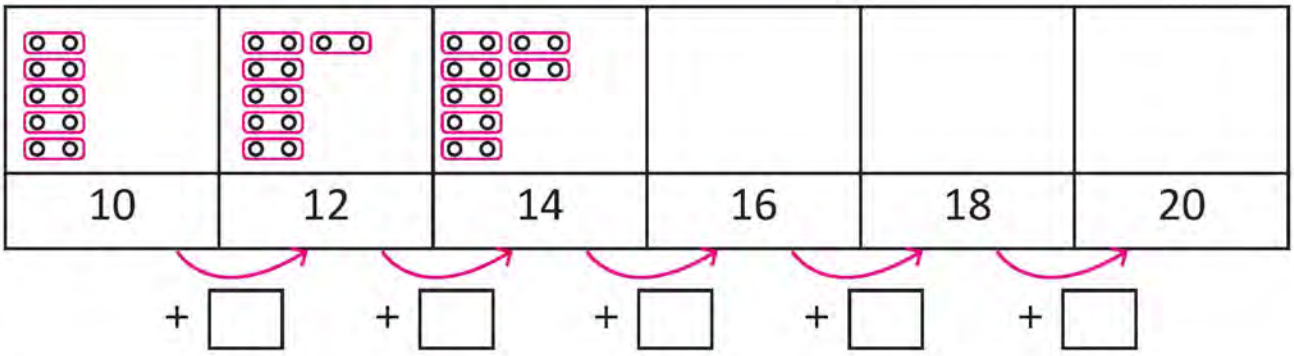
Sunday	Monday	Tuesday	Wednesday
 Rs. 600	 Rs. 700	 Rs. 800	 Rs. 900
Thursday	**Friday**	**Saturday**	
 Rs. 1000	 Rs. 1100	 Rs. 1200	

I earn Rs. 100 more each day.

Sun	Mon	Tue	Wed	Thu	Fri	Sat
600	700	800	900	1000	1100	1200

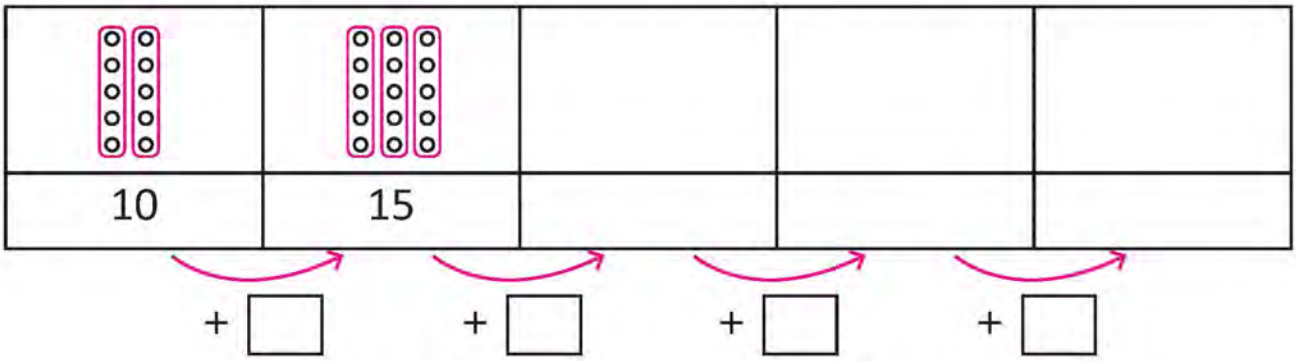
+100 +100 +100 +100 +100 +100

Complete the pattern of Numbers.



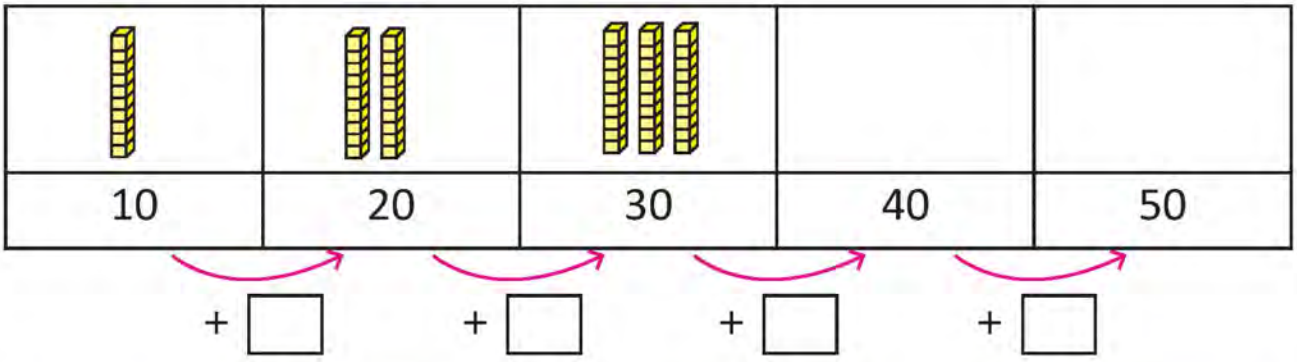
10	12	14	16	18	20

+ ☐ + ☐ + ☐ + ☐ + ☐



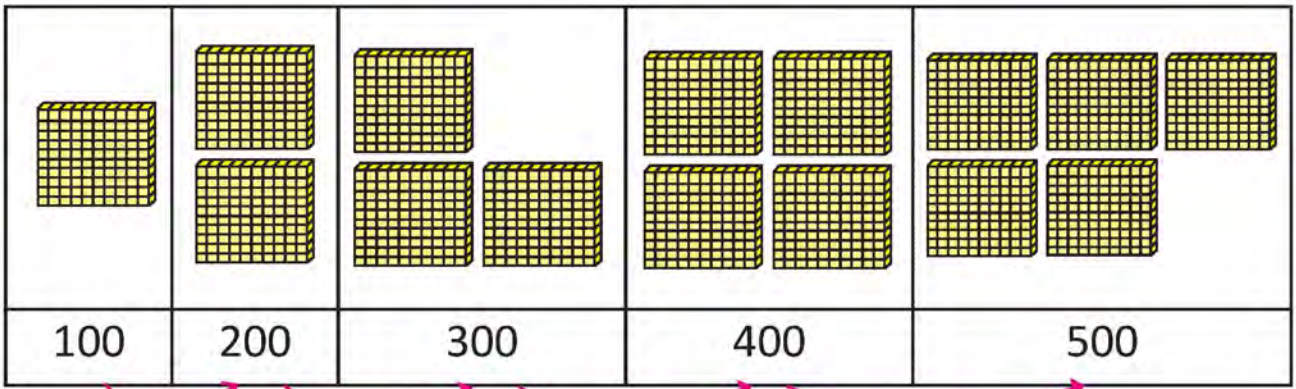
10	15			

+ ☐ + ☐ + ☐ + ☐



10	20	30	40	50

+ ☐ + ☐ + ☐ + ☐



100	200	300	400	500

+ ☐ + ☐ + ☐ + ☐

Read and discuss the conversation between Shyam and Prema.

2	7	12	17	22			

Shyam ! how is the order of the above numbers arranged?

Numbers are in ascending order.

Prema! How much is the second number more than the first number? Similarly, what about the third than the second?

Shyam ! I found out. The second number is 5 more than the first. Similarly, the third number is 5 more than the second and so on.

Prema ! So, what are the last three numbers?

Shyam ! 22 + 5 = 27, 27 + 5 = 32, 32 + 5 = 37

Absolutely correct!

Complete the pattern of numbers.

6	8	10	12	14				

12	15	18	21					

45	50	55	60					

Complete the pattern of given numbers.

2	4	6	8	10				

15	20	25	30	35	40			

30	40	50	60	70	80			

1	3	5	7	9	11	13		

5	9	13	17	21	25	29		

5	11	17	23					

10	22	34	46	58				

100	200	300	400					

101	301	501	701					

1002	1302	1602						

999	1099	1199	1299					

Circle the numbers that comes in the difference of 4.

1	2	3	(4)	5	6	7	(8)	9	10	11	12
13	14	15	16	17	18	19	20	21	22	23	24
25	26	27	28	29	30	31	32	33	34	35	36
37	38	39	40	41	42	43	44	45	46	47	48
49	50	51	52	53	54	55	56	57	58	59	60

Circle the numbers that comes in the difference of 6.

1	2	3	4	5	(6)	7	8	9	10	11	12
13	14	15	16	17	18	19	20	21	22	23	24
25	26	27	28	29	30	31	32	33	34	35	36
37	38	39	40	41	42	43	44	45	46	47	48
49	50	51	52	53	54	55	56	57	58	59	60

Complete the pattern of given numbers.

					
1	3	6	10		

					
1	4	9	16		

Number Sense

Let's see. How much have I learnt?

1. तल दिइएका सङ्ख्याङ्कलाई अक्षरमा र अक्षरलाई सङ्ख्याङ्कमा लेख्नुहोस् :

देवनागरी सङ्ख्याङ्क	अक्षरमा
४५३	
	दुई सय बिस
७८०	
	पाँच सय दुई

2. Write given numerals in words and words into the numerals.

In numerals	In words
574	
	Two hundred seven
804	
	Five hundred eighty nine

3. Write the place and place value of circled digit.

3 (2) 1 5 6 Place: ..... Place value: .....

7 8 (9) 10 Place: ..... Place value: .....

(6) 2 1 5 6 Place: ..... Place value: .....

4. Compare the given numbers and put =, > or < sign in the box.

529	☐	438	854	☐	954
781	☐	791	705	☐	705

5. Write any three numbers made up of three digits using the given digits and write the smallest and largest number.

2, 4, 5 ☐ ☐ ☐

Smallest number ☐

Largest number ☐

6. Complete the pattern of given numbers.

				
4	6			

1001	2001	3001		

9091	9191	9291		

Teacher's signature

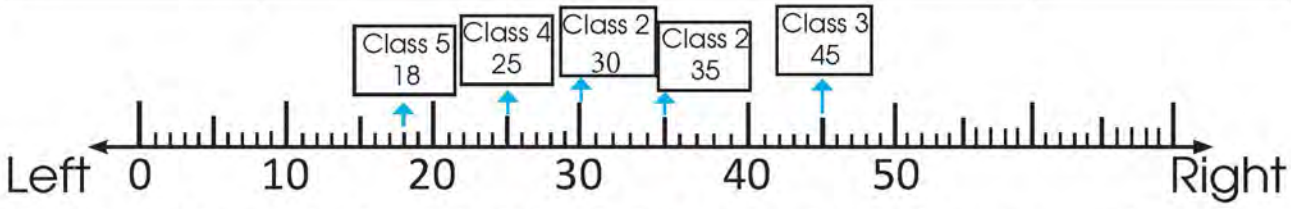
Parent's signature

Lesson 5 Ascending and Descending Order

Study and write:

The number of students in Janata Basic School from grade 1 to 5 is as follows:

Class 1	Class 2	Class 3	Class 4	Class 5
35	30	45	25	18



Numbers to write from left to right based on above number line,

18, 25, 30, 35, 45

Numbers to write from right to left based on above number line,

45, 35, 30, 25, 18

Oh! 18, 25, 30, 35, 45 are in ascending order

45, 35, 30, 25, and 18 are in descending order.

Yes, You are absolutely correct.

1. 2345 6514 3257

Ascending order : | 2345 | 3257 | 6514 |

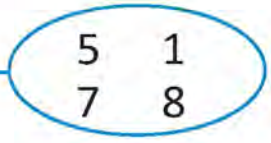
Descending order : | 6514 | 3257 | 2345 |

2. 1345 2057 2181

Ascending order : | | | |

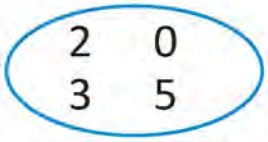
Descending order : | | | |

Write any three four-digit numbers using the given digits and write them in ascending and descending order.

1. 

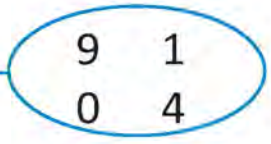
Descending order : ☐, ☐, ☐

Ascending order : ☐, ☐, ☐

2. 

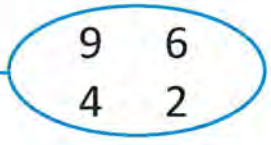
Descending order : ☐, ☐, ☐

Ascending order : ☐, ☐, ☐

3. 

Descending order : ☐, ☐, ☐

Ascending order : ☐, ☐, ☐

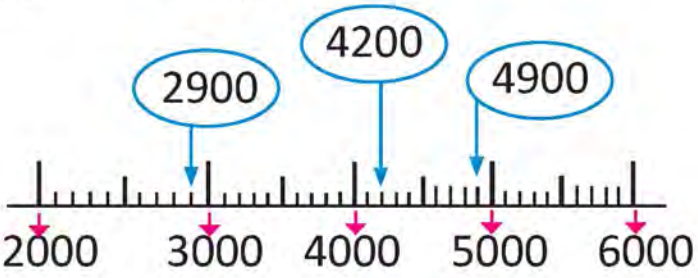
4. 

Descending order : ☐, ☐, ☐

Ascending order : ☐, ☐, ☐

Put the given numbers in number line and write them in ascending and descending order.

(a) 2900, 4900, 4200

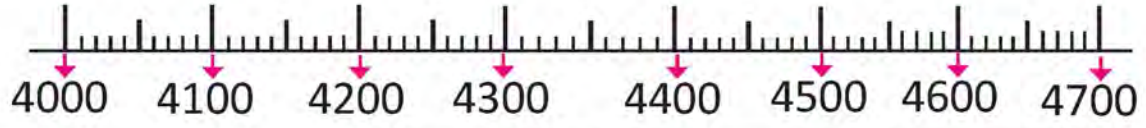


Ascending order : ☐, ☐, ☐

(b) 2990, 3400, 2890

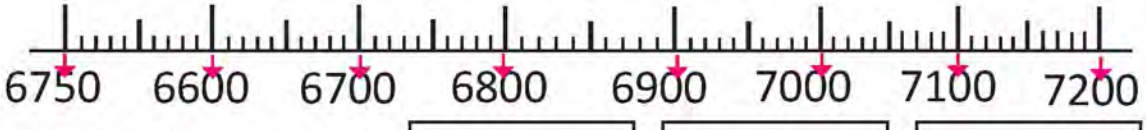
Descending order : ☐, ☐, ☐

(c) 4690, 4120, 4450



Ascending order : ☐, ☐, ☐

(d) 6750, 6590, 7130



Descending order : ☐, ☐, ☐

Lesson 6 Local Numeral System up to 20

Local Numerals System

Numbers from 1 to 10 are given in the table below, according to some local numeral system prevalent in Nepal. Study the numbers and discuss in class.

Devanagari	१	२	३	४	५	६	७	८	९	१०
Nandinagari	೧	೨	೩	೪	೫	೬	೭	೮	೯	೧೦
Brahmi	𑁒	𑁓	𑁔	𑁕	𑁖	𑁗	𑁘	𑁙	𑁚	𑁛
Purbalichchhibi	𑇑	𑇒	𑇓	𑇔	𑇕	𑇖	𑇗	𑇘	𑇙	𑇚
Uttarlichchhibi	𑇡	𑇢	𑇣	𑇤	𑇥	𑇦	𑇧	𑇨	𑇩	𑇪
Kirant	𖵀	𖵁	𖵂	𖵃	𖵄	𖵅	𖵆	𖵇	𖵈	𖵉
Ranjana	𑑐	𑑑	𑑒	𑑓	𑑔	𑑕	𑑖	𑑗	𑑘	𑑙
Bhujimol	๑	๒	๓	๔	๕	๖	๗	๘	๙	๑๐
Newari	๑	๒	๓	๔	๕	๖	๗	๘	๙	๑๐
Maithili	১	২	৩	৪	৫	৬	৭	৮	৯	১০
Tibbati	༡	༢	༣	༤	༥	༦	༧	༨	༩	༡༠

www.narchives.gov.np/ *Source: National Archives, Ramshahpath*

Numbers that are prevalent in different places of our country can be searched in different scripts.

Example:

देवनागरी	अखा
रञ्जना	स्वेमा
सम्भोटा	सन्थाल
मिथिलाक्षर	उर्दु
तिरहुता	बाङ्ला
कैथी	गुरुमुखी
सिरिजङ्गा	रोमन

Write 1 to 20 in any two local numerals systems prevalent in your local area.

Roman Numerals

Study:

Pramila saw a similar clock as shown in the right side in her school office. She asked her Mathematics teacher about the clock signs. The teacher made the following table and explained the Roman, Devanagari and Hindu Arabic numerals.

Hindu Arabic numerals	1	2	3	4	5	6	7	8	9	10	11	12
Devanagari numerals	१	२	३	४	५	६	७	८	९	१०	११	१२
Roman numerals	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII

Write the Roman numerals for the following Devanagari numerals.

१	२	५	७	१०	११

३	४	६	८	९	१२

Write the Roman numerals for the following Hindu Arabic numerals.

2	5	7	4	8	12	10

Lesson 7

Fraction

Read and discuss:

Rama went to a friend's house. She saw papad burned by her friend's mother.

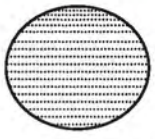
Mother, I want to eat papad.

I also want to eat

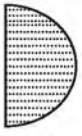
I have only one papad. Then I will give you half and half.

I got a half.

I also got a half.



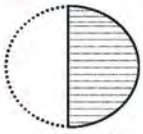
whole



half

A fraction is used to represent a part of a whole thing by dividing it into equal pieces.

How can we write a half which I got as a fraction?



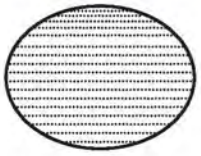
$\frac{1}{2}$ ← Fraction
← Divident

half

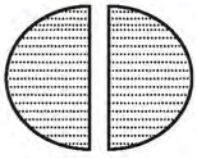
When a whole object is divided into equal parts, the total number of equal pieces is called denominator Here 2 is denominator.

The numerator represents how many parts are being considered. Here, 1 is numerator.

Basanta divided one bread into two equal parts and gave half a bread to his sister. His sister refused to eat. He also ate the bread given to his sister. How much of the bread did he eat?



$\boxed{1}$



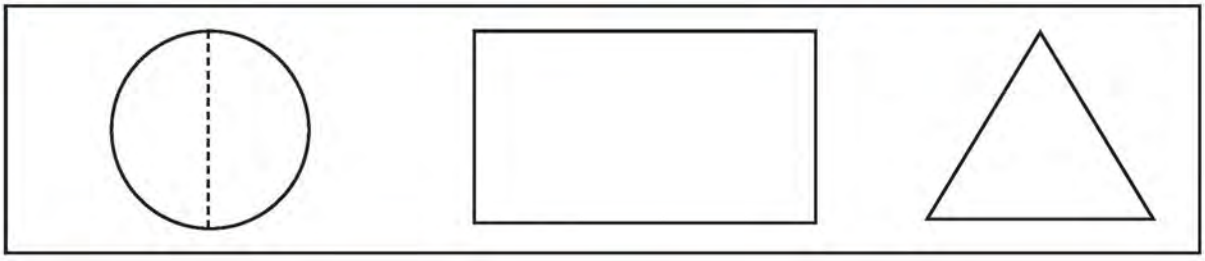
$\boxed{\frac{2}{2}}$ = 1 (whole)

Two pieces of a half

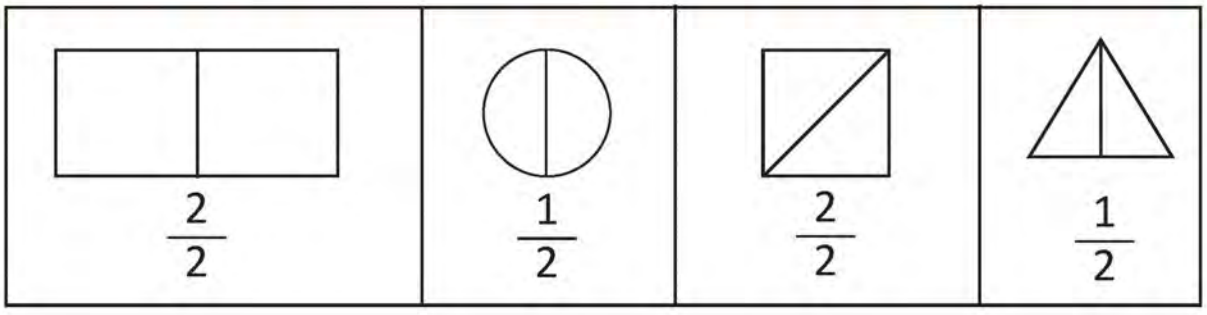
He ate both of the two parts. The numerator and denominator are equal.

Here, two half makes whole. In fraction, 2/2 it is written as 1.

Draw a line and make half of the given figure.



Colour the parts indicated by the fractions given below.



Read and discuss:

Divide one bread into four equal parts and eat together.

→

$\frac{4}{4}$ Four quarters

Sabina	Dhana	Ale	Lakhan
			
			
a quarter	a quarter	a quarter	a quarter
$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$

How much did Savina and Dhan eat together?

two quarters $\frac{2}{4}$

Two parts of four.

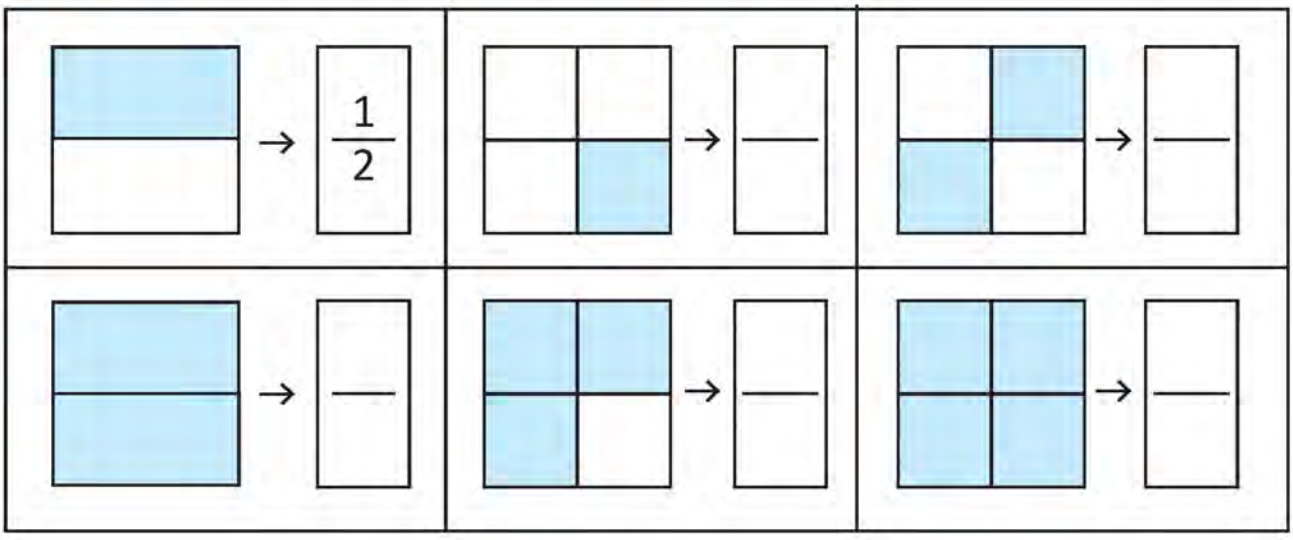
Two fourth is also called half.

How much did Savina, Dhan and Ale eat together?

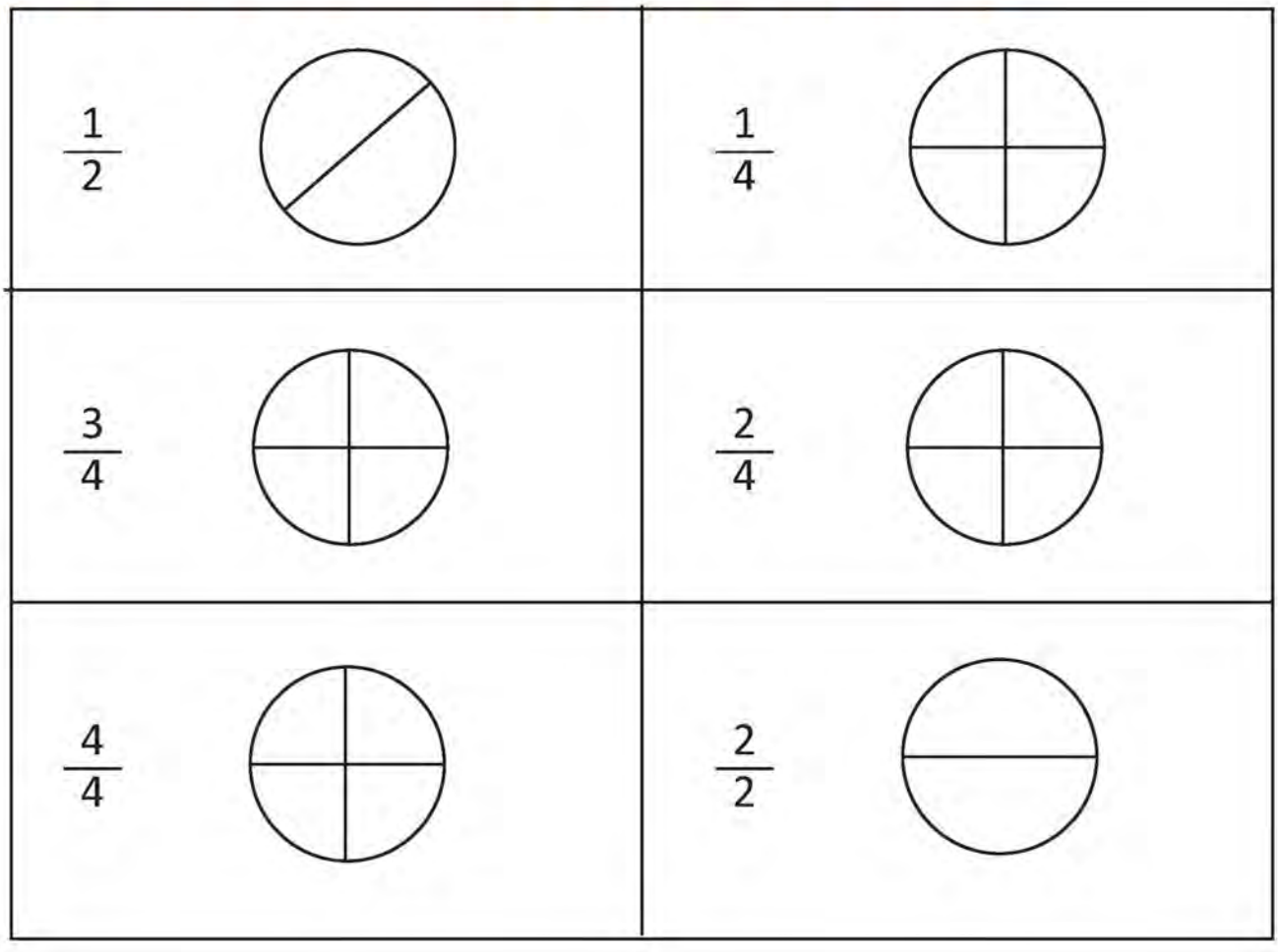
Three parts of four. $\frac{3}{4}$

Three fourth

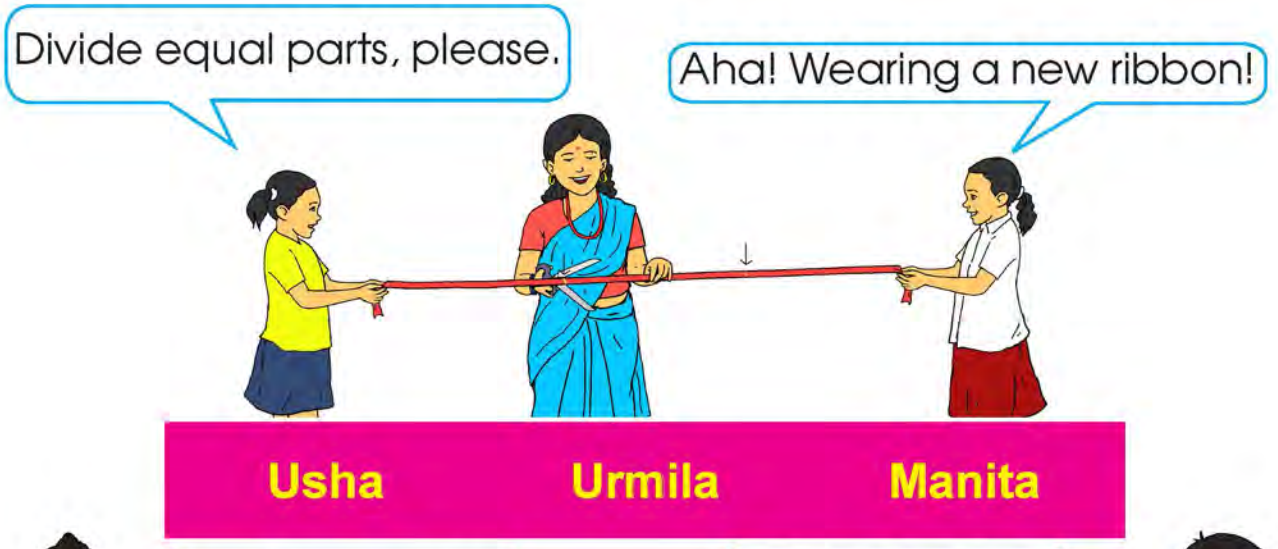
Write the shaded parts in fraction.



Shade the fractions in the given pictures.



Urmila cut a long ribbon into equal parts and shared it with herself and her two daughters, Usha and Manita. How much did each get?



How much Urmila get?

One part out of three parts.

One part of three parts is also called one-third.

$\frac{1}{3}$ One part of three

How much did Usha and Manita got altogether?

Two parts out of three?

$\frac{2}{3}$ (two parts of three)

Match the following:

$\frac{1}{2}$	Two parts of three
$\frac{1}{4}$	Half
$\frac{3}{4}$	Three parts of four
$\frac{1}{3}$	A quarter of whole
$\frac{2}{3}$	One part of three

$\frac{1}{4}$

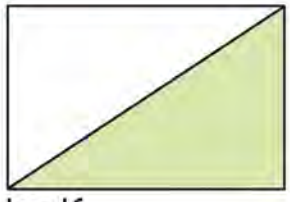
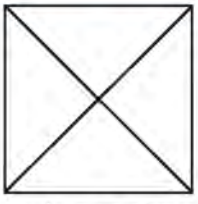
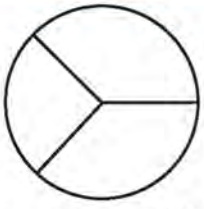
$\frac{1}{3}$

$\frac{1}{2}$

$\frac{2}{3}$

$\frac{3}{4}$

Shade the figures for the given fractions.

 $\frac{1}{2}$ half	 $\frac{1}{4}$ quarter of whole	 $\frac{2}{3}$ two parts of three
 $\frac{3}{4}$ three parts of four	 $\frac{1}{4}$ quarter of whole	 $\frac{2}{4}$ Two parts of four

Draw a figure and fill the color according to a given fractions.

$\frac{1}{2}$	$\frac{1}{4}$
$\frac{1}{3}$	$\frac{2}{3}$
$\frac{3}{4}$	$\frac{2}{4}$
$\frac{3}{3}$	$\frac{4}{4}$

Compare the shaded parts and put the symbol > or < in the circle:

Figure

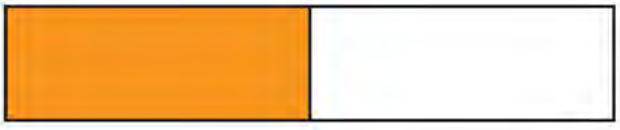
Fraction

$\frac{1}{2}$

$\frac{1}{4}$

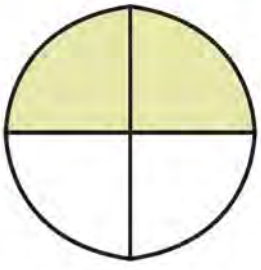
$\frac{1}{2}$ (>) $\frac{1}{4}$

..... / .....

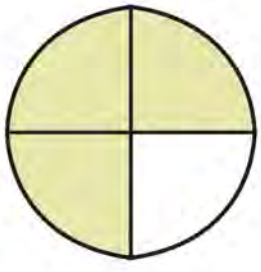


..... / .....

– ( ) –



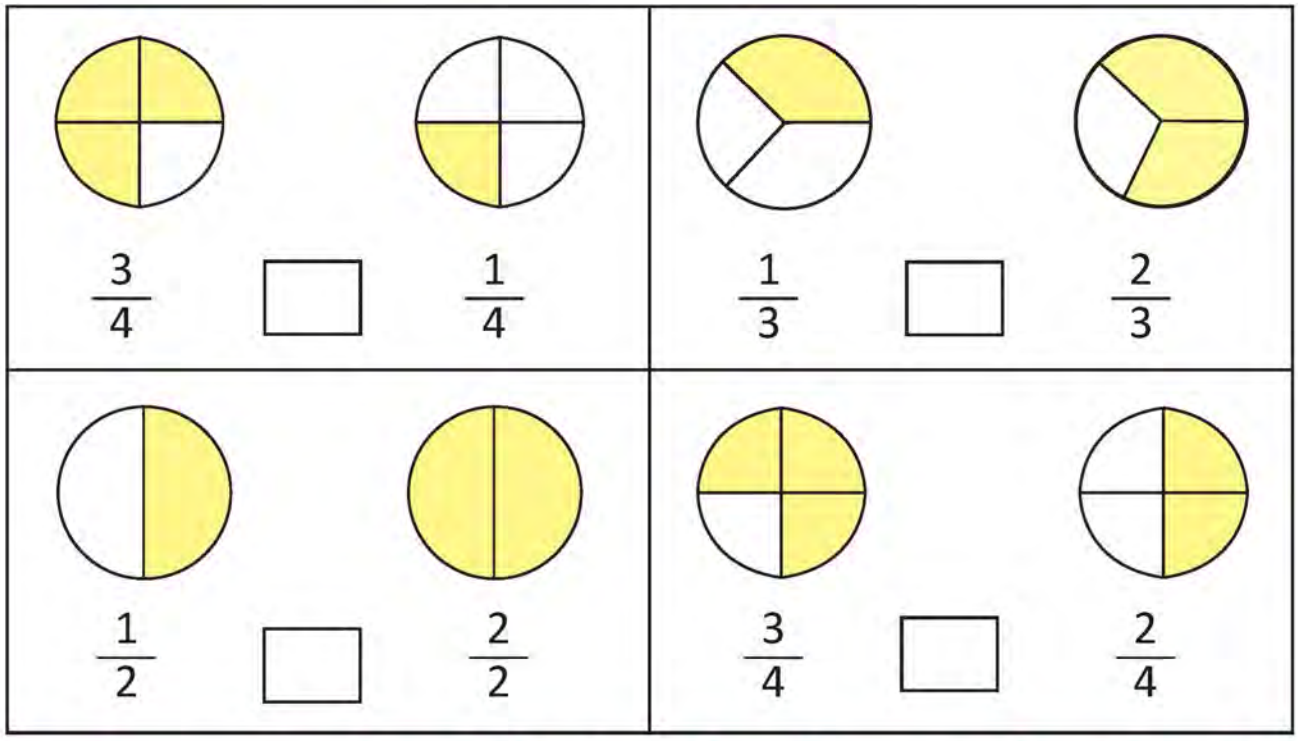
..... / .....



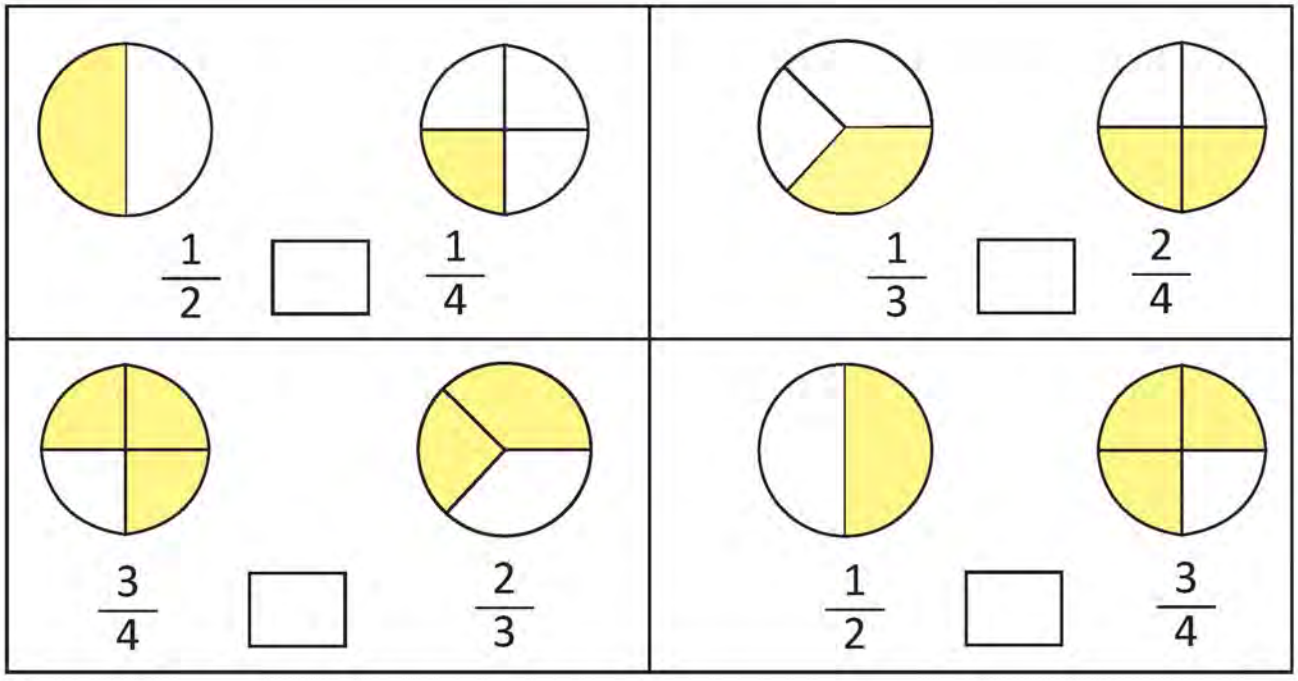
..... / .....

– ( ) –

Compare the following fractions and write the symbols < or > in the given box.



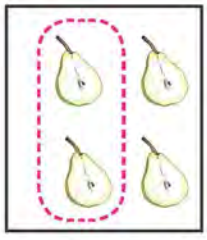
Compare the following fractions and write the symbols < or > in the given box.



Discuss and write.

1. How many bananas are in the picture? _____
2. How many green bananas are in the picture? _____
3. Write the fraction of green banana. _____
4. Write the fraction of yellow bananas. _____

Circle the object based on the fraction according to the given example.



half of whole $\frac{1}{2}$

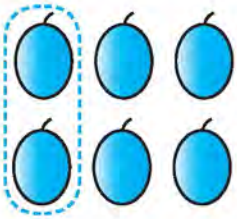
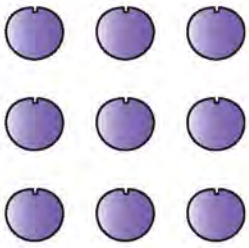
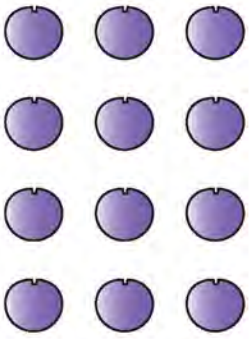
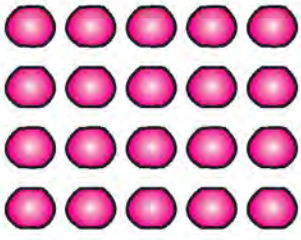
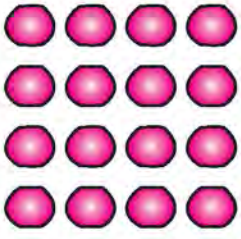
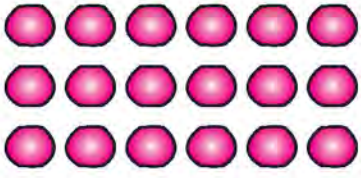
one part of three $\frac{1}{3}$

two parts of three $\frac{2}{3}$

three parts of four $\frac{3}{4}$

half of whole $\frac{1}{2}$

Circle the object according to the given fraction:

 one part of three $\boxed{\frac{1}{3}}$	 two parts of three $\boxed{\frac{2}{3}}$	 half of whole $\frac{1}{2}$
 half of whole $\frac{1}{2}$	 one part of four $\frac{1}{4}$	 two parts of four $\frac{2}{4}$
 two parts of four $\frac{2}{4}$	 three parts of four $\boxed{\frac{3}{4}}$	 half of whole $\frac{1}{2}$

Lesson 8

Length

Length of object

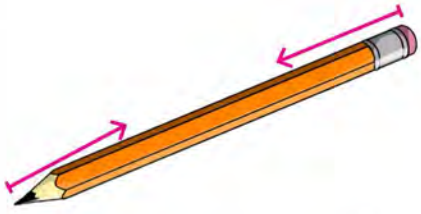
Measure the length of the given objects using a ruler and present in the classroom.

(a)

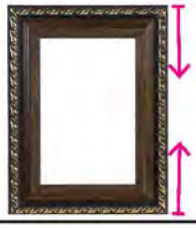
(b)

(c)

(d)



(e)



(f)

Discuss:

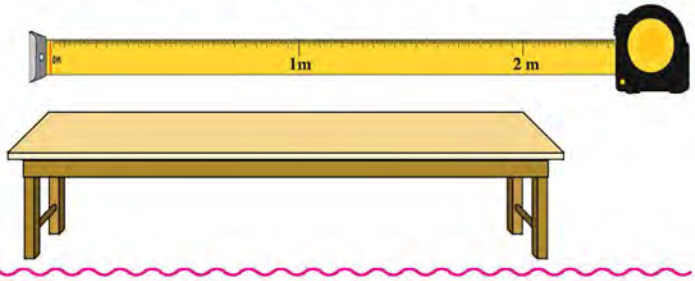
The image given below is a tape used to measure the length of an object. The length of a short object is measured in centimetres and a long object is measured in metres. Length of a classroom, height of a house, and height of a door are measured in the unit 'metre'.

1 metre is 100 centimetre
1 metre = 100 centimetre

How long is your bench in the classroom?

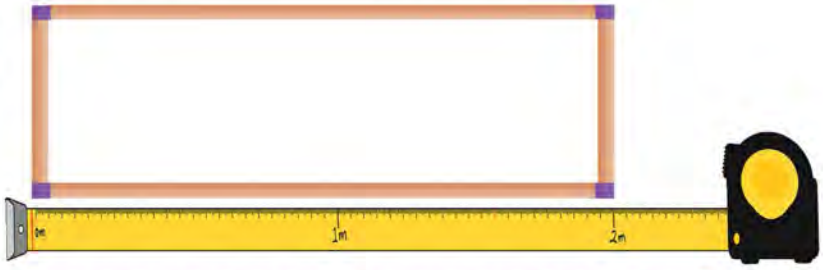
Can the length of the bench be measured in centimetres?

Yes, but it is suitable to measure in metre.

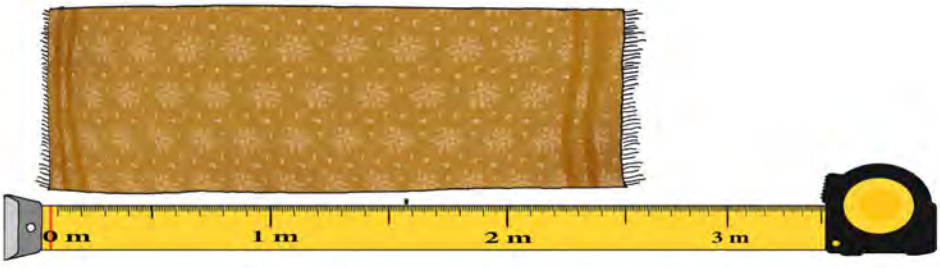


How long is the board hanging in the classroom?

What is its height?



This carpet is 2 metres 50 centimetres long.



Measure and write the length of the following items in your classroom.

Blackboard ☐	Table ☐
Bench ☐	Chair ☐

Measure and write the length of the following items in your home.

Bed ☐	Bedroom ☐
House ☐	Table ☐
Blanket ☐	Cupboard ☐

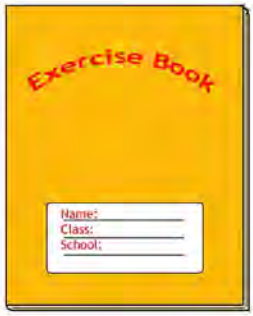
Write the measurements of any two objects around you in centimetres and the measurements of the other two objects in metres.

☐ ☐

☐ ☐

Estimate the length of objects.

The picture of a copy is given in the right side.



The length of two edges of the copy are different.

Which edge is longer? Vertical or horizontal?

What is the length of its vertical part in centimetre?

What is the length of its horizontal part in centimetre?

The picture of the pen is given in right hand side.

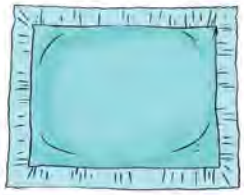
What is the length of a pen?

Is this pen 12 centimetres long?

Is this pen 5 centimetres long?

Is this pen 20 centimetres long?

These are the pictures of a table and a mat.



What is the length of the mat?

What is the length of the table?

Which one is longer? Mat or Table?

Estimate the length of the items which you have and tick the correct one.

	4 cm ☐	7 cm ☐	12 cm ☐	16 cm ☐
	5 cm ☐	10 cm ☐	20 cm ☐	30 cm ☐
	20 cm ☐	30 cm ☐	50 cm ☐	80 cm ☐

Estimate the length of object and verify by measurement.

Objects	Estimated length	Actual length	difference
			
			
			

Estimate your own height and find the actual height by measuring.

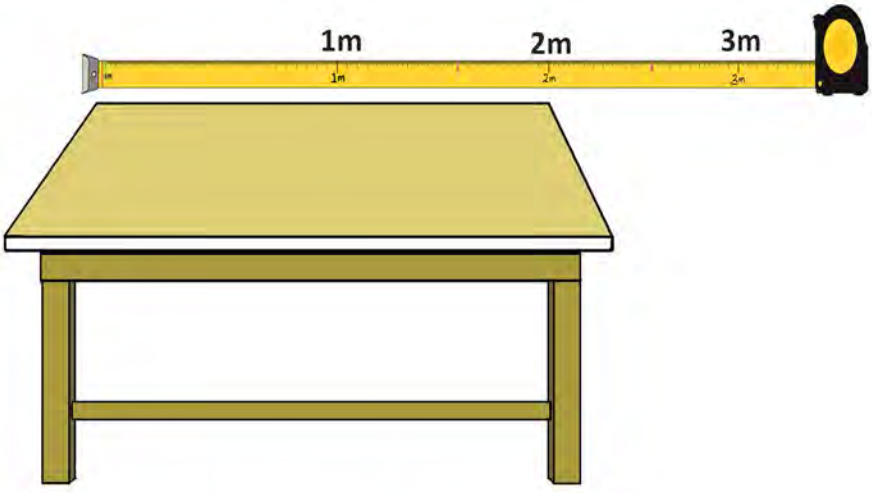
Estimated height	Actual height

Estimate the length

It is difficult to measure the long distance in centimetres. Metre unit should be used.

What may be the distance between house and student in the picture ?

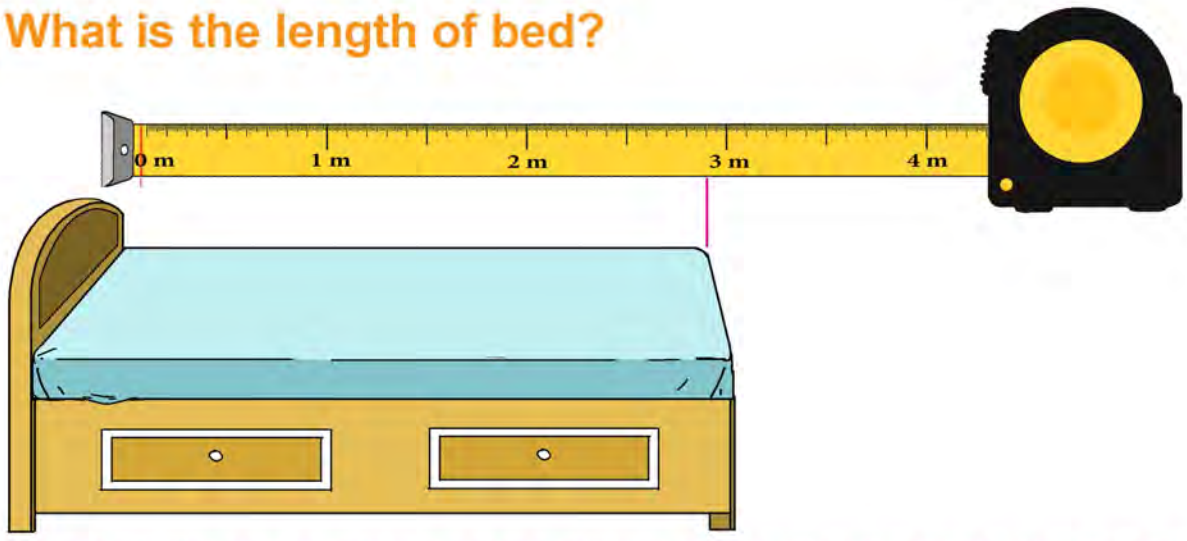
How far are the cows from school?



The length of table surface is 2 metre long.

What is the measurement of breath?

What is the length of bed?



Estimate the length of given objects.

Objects	Estimated length	Actual length	Difference
Length of your classroom			
Length of school building			
Length of your school playground			
Length of the bench you it.			

Estimate the length of given object and verify by measurement.

Objects	Estimated length	Actual length	Difference
Length of bed			
Length of bedroom			
Length of cupboard			
Length of kitchenroom			

Our community

Let's see. How much have I learnt?

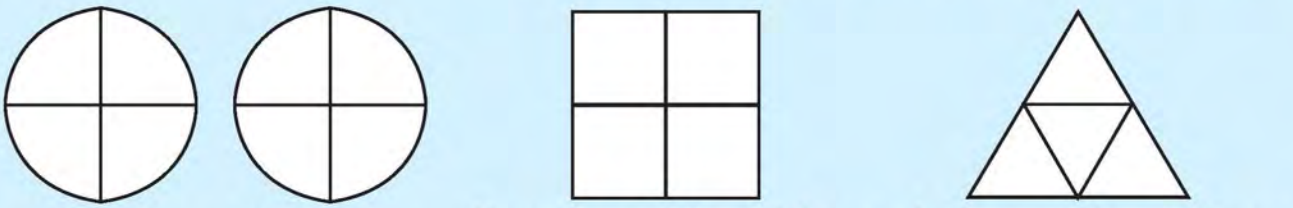
1. **Write any three numbers made up of 1, 4 and 3. Write those numbers in ascending and descending order.**

Numbers : ☐ ☐ ☐

Ascending order : ☐ ☐ ☐

Descending order : ☐ ☐ ☐

2. **Shade the given figures according as the fractions.**



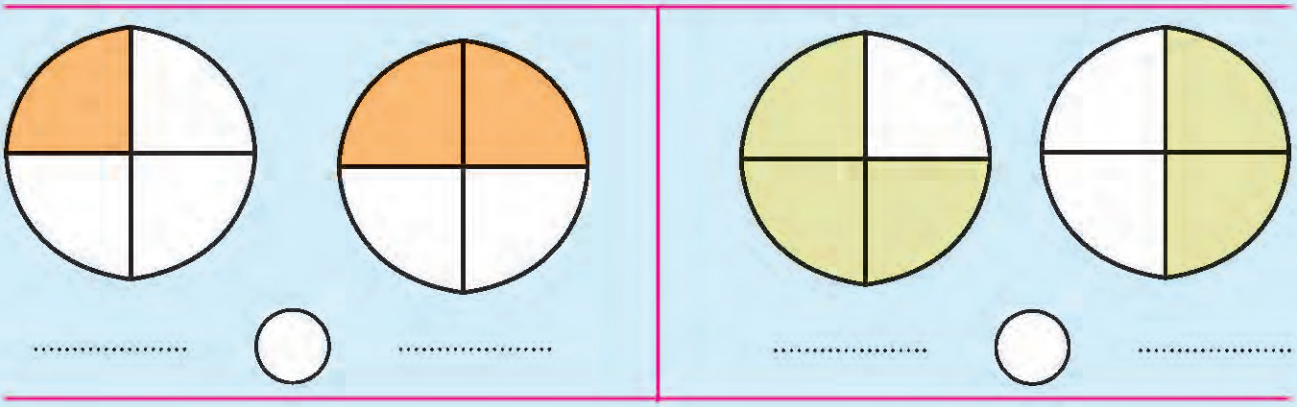
half quarter three parts of four two parts of four

3. **Estimate the length of objects in your surrounding and write the name of an object that matches the measurements given below.**

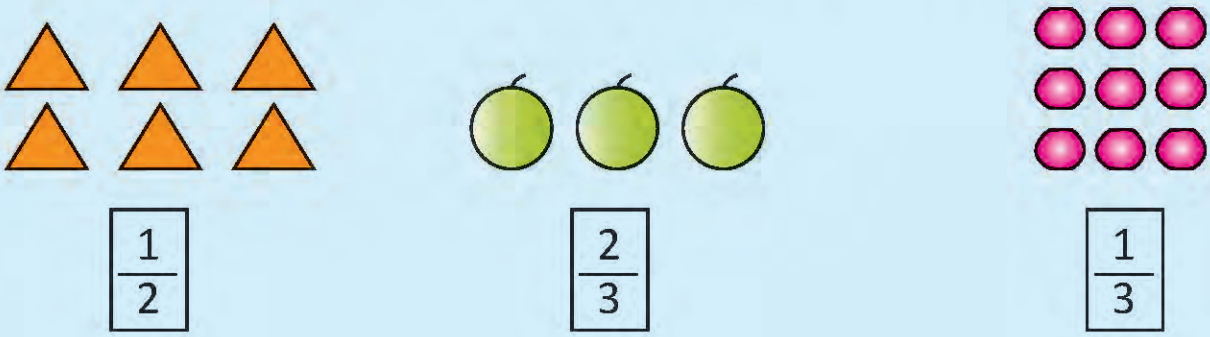
1 mililitre ☐ 1 centimetre ☐ 1 metre ☐

4. **Write 1 to 10 in any one local numerals system.**

5. **Write the shaded part in fractions and compare them.**



6. **Circle the object according to the given fraction:**



Teacher's signature

Parent's signature

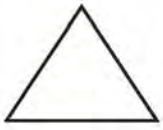
Lesson 9 Lines

Let's sing.

Line, angle, triangle and quadrilateral

किताब कापी झिकौँ साथी खोलौँ अब झोला ।
रेखासँग खेलौँ साथी के के बन्छ होला ॥

एकआपसमा छलफल गर्दै जाने पछि छोड ।
दुई सिधा रेखा जोड्दा बन्छ साथी कोण ॥



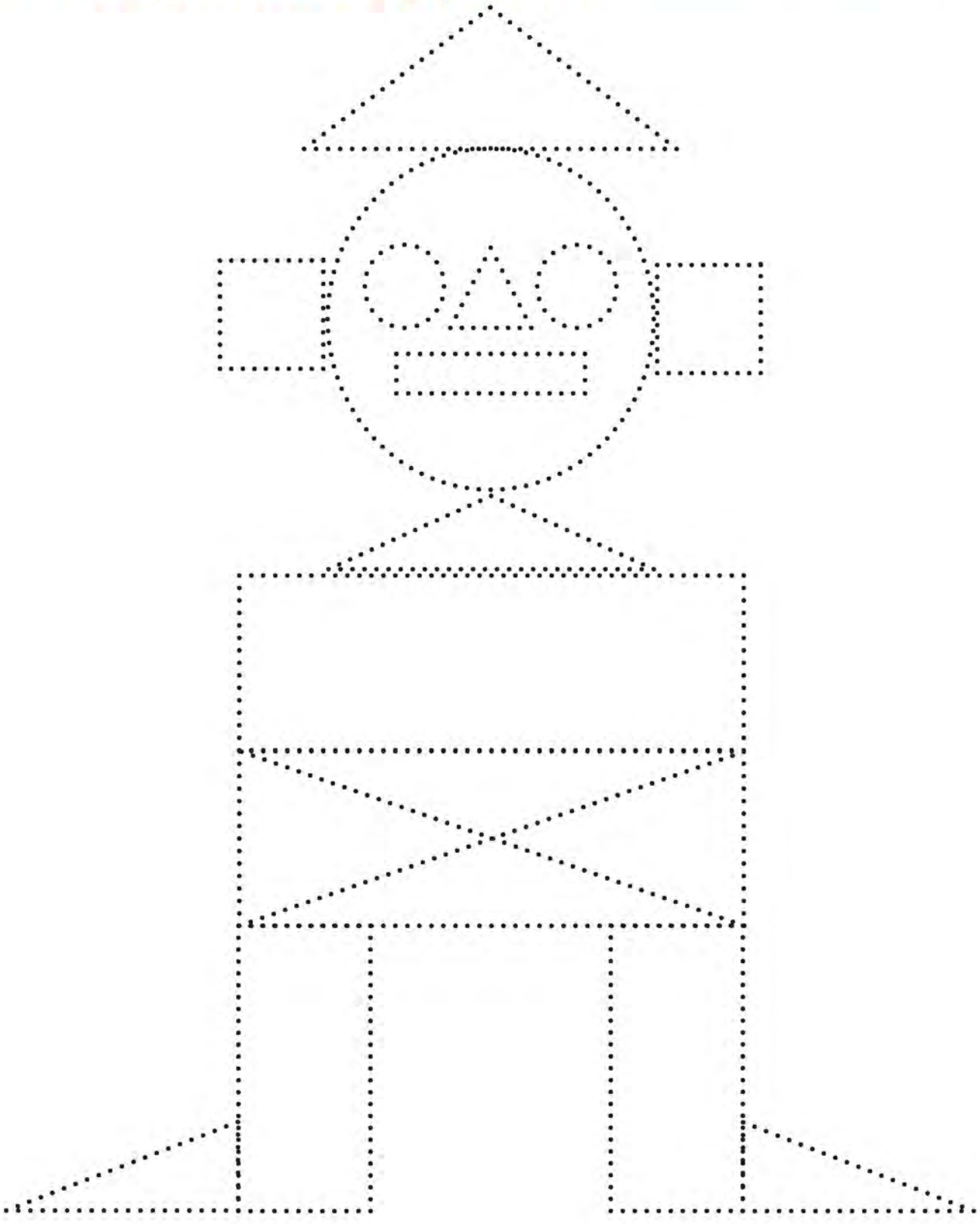
कोणमा चिह्न लगाऔँ साथी नगरौँ है बेर ।
तीन भुजा जोडेँ मैले त्रिभुज बन्यो हेर ॥

चारतिर धर्के धर्का कोरौँ अब साथी ।
चार भुजे आकृति त बन्छ निकै खाँटी ॥

यस्तो बन्द आकृतिलाई के भन्छन् हो सुन ।
चतुर्भुज भन्छन् साथी मनमनै गुन ॥

दुईमा कोण, तीन त्रिभुज, चार चतुर्भुज ।
यी त सबै ज्यामितीय आकृति हुन् बुझ ॥

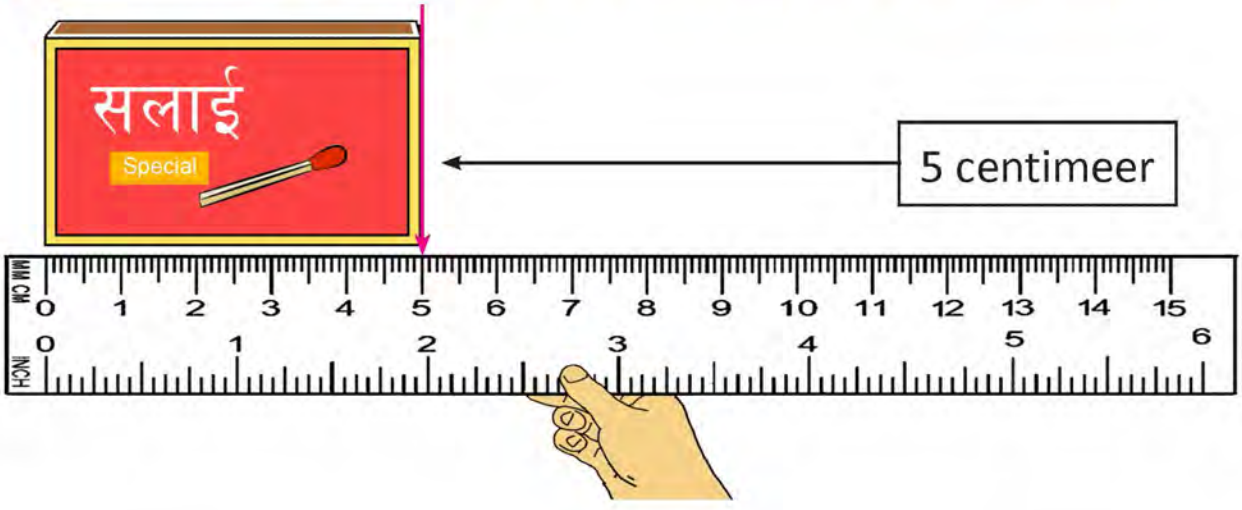
Complete the shape by joining the following dots. Colour the triangles by red, the circles by blue and the quadrilaterals by yellow.



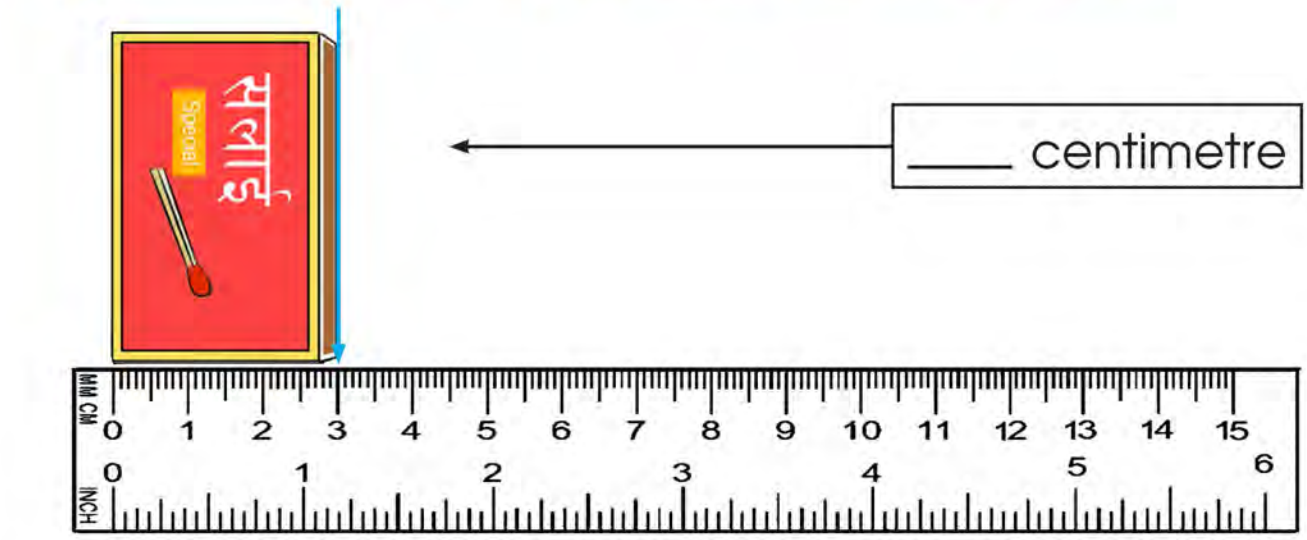
Stand around the table and touch the four corner and straight edges.

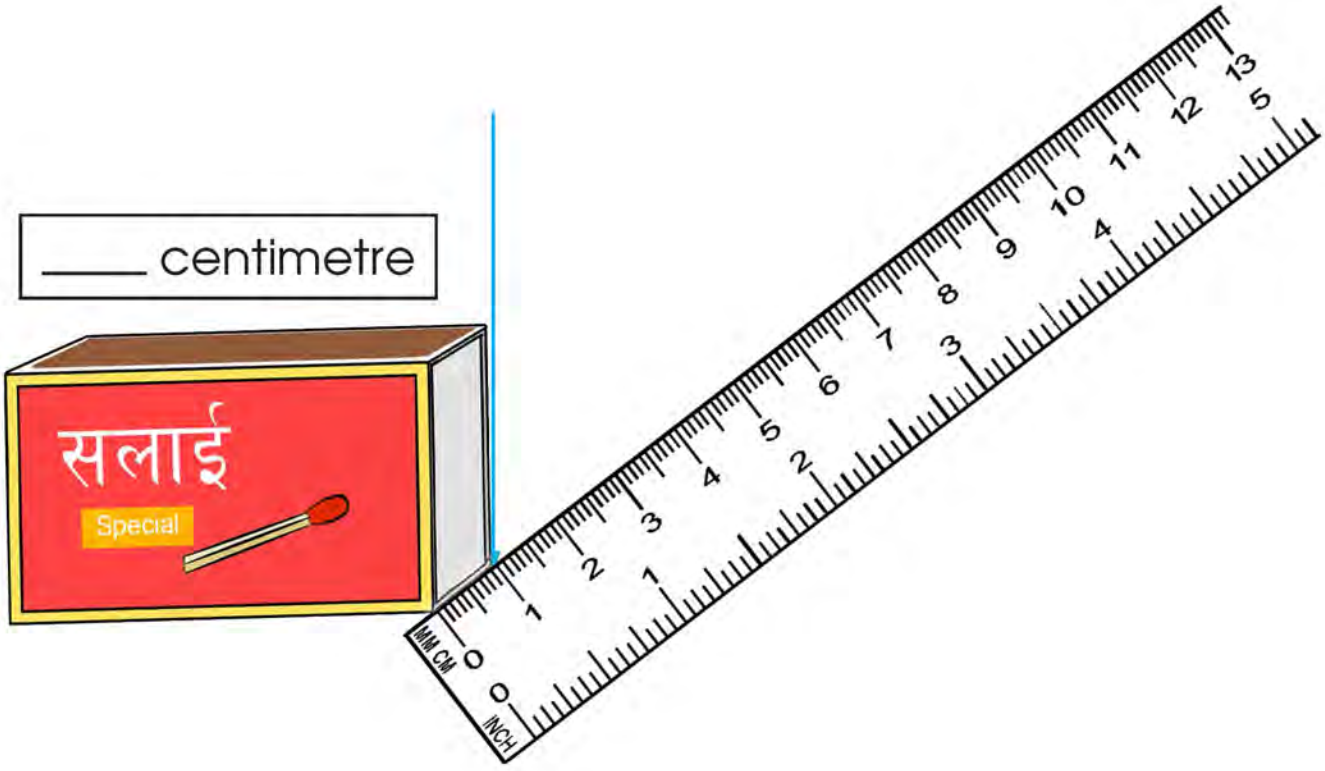
Touch the edges of match box.

Measure the edges of the match box using ruler.



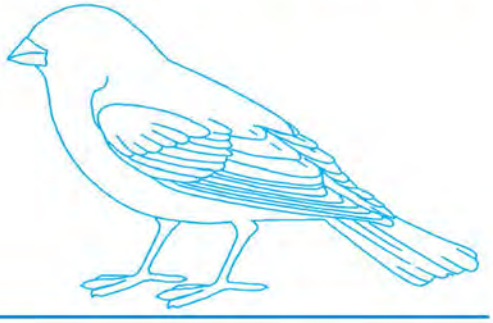
Measure the edges of match box using a ruler.



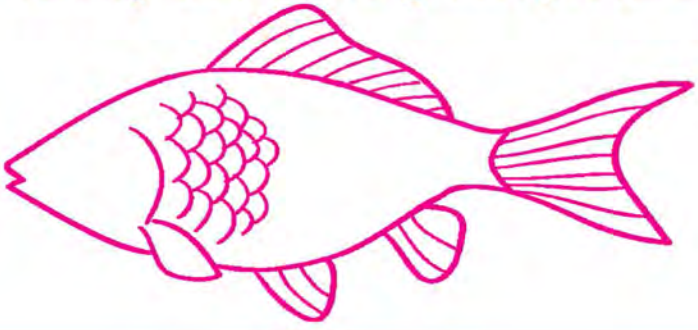


Point (•) is a dot formed by tip of a sharpened pencil on a paper.

Point the eye of the bird by dot in the given picture.



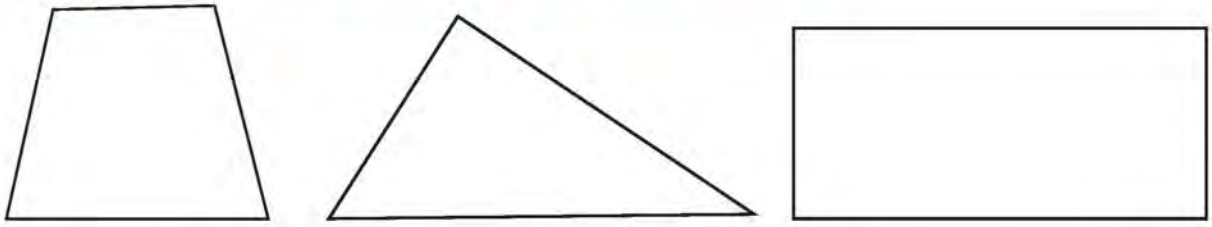
Point the eye of the fish by dot in the given picture.



Draw a shape joining the given dots.

Draw two dots inside the given figures.



Join the given two points inside the box using a ruler.

Measure the above line segments and write its length.

The line segment joining P to Q is PQ,

PQ = ... cm.

The line segment from A to B is AB,

AB = ... cm.

The line segment from C to D is CD,

CD = ... cm.

Estimated length of the pencil = _____ cm

Actual length of the pencil = _____ cm

Estimate the length of the given line segments. Then write the actual length of line segments using a ruler.

(a) _____ Estimated length ☐ cm

Actual length ☐ cm

(b) _____ Estimated length ☐ cm

Actual length ☐ cm

(c) _____ Estimated length ☐ cm

Actual length ☐ cm

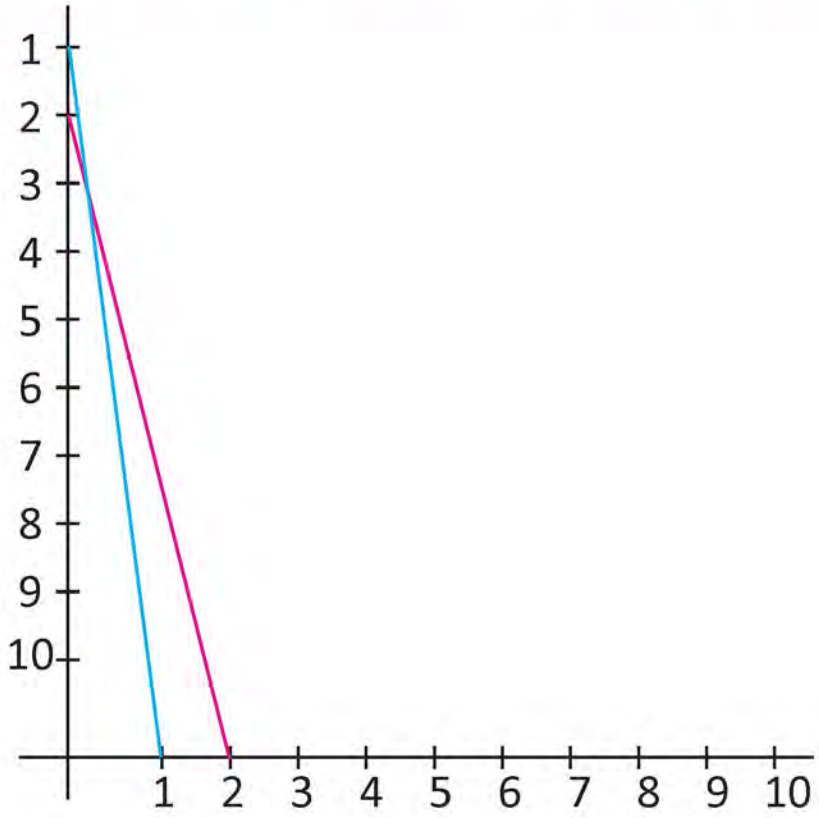
(d) _____ Estimated length ☐ cm

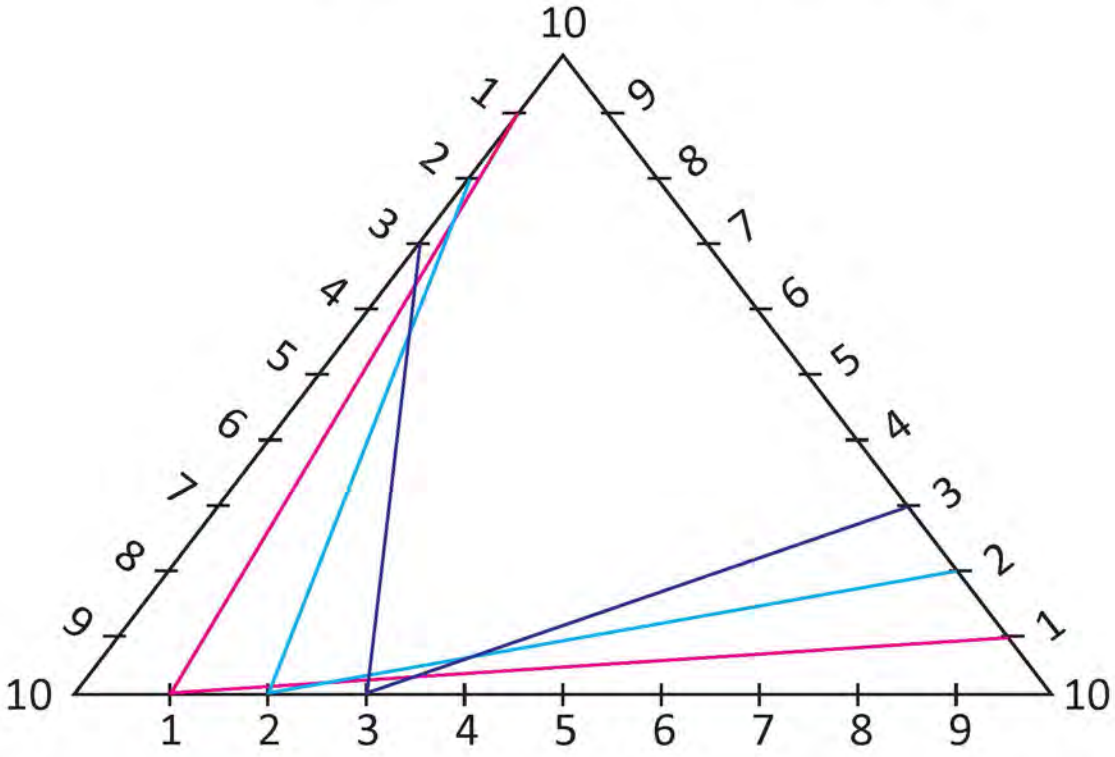
Actual length ☐ cm

Draw line segments of the following length and write its name.

3 cm. C ——— D This line is segment CD.
2 cm.
4 cm.
6 cm.
8 cm.
10 cm.
5 cm.
7 cm.

Join the following points using a ruler as shown in the figure (1 with 1, 2 with 2, 3 with 3 and so on).

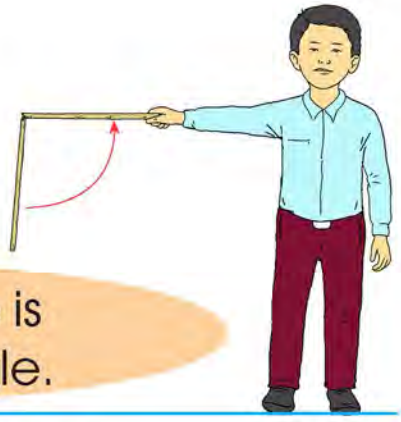




Lesson 10 Angles

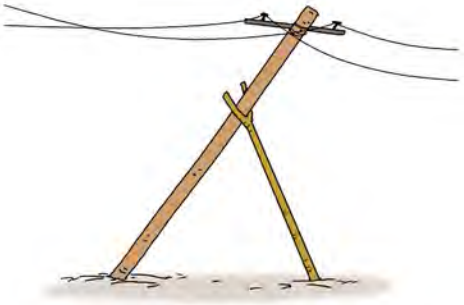
What is the shape of Norwu's broken stick? Discuss.

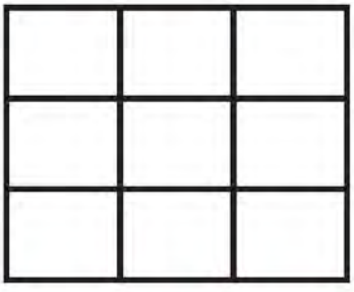
How many corners are there in broken stick? ☐

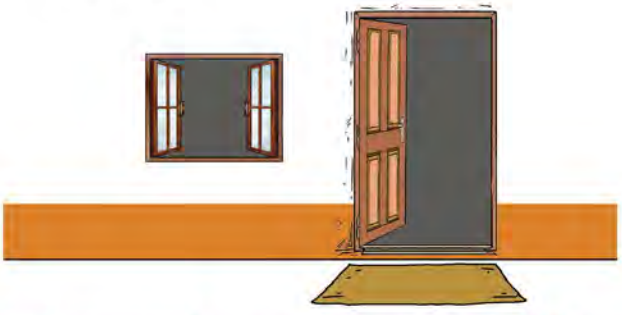


Such a shape is called an angle.

Where are the angles formed? Discuss.





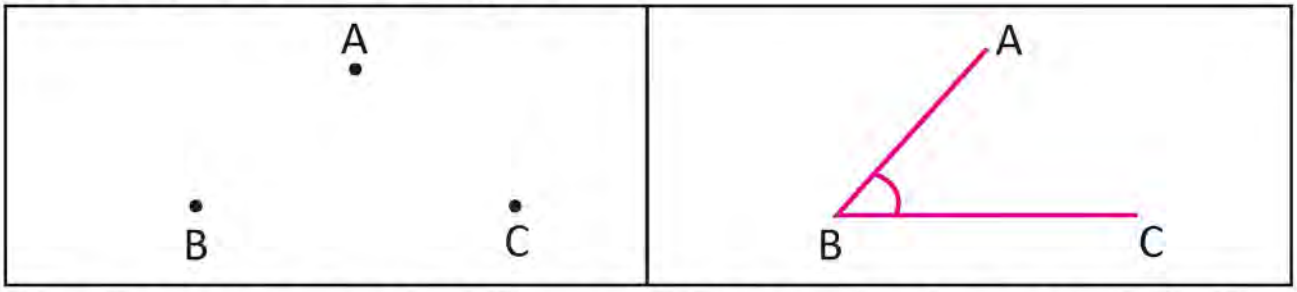


Where do you see angles formed around you? Write any four conditions.

1.		2.	
3.		4.	

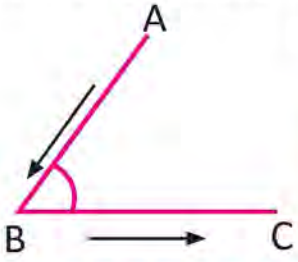
Read.

Let's join the following points A and B using a ruler. In the same way, join the points B and C. The shape formed in this way is called angle.



The line segments AB and BC meet at a point B. The point B is called a vertex.

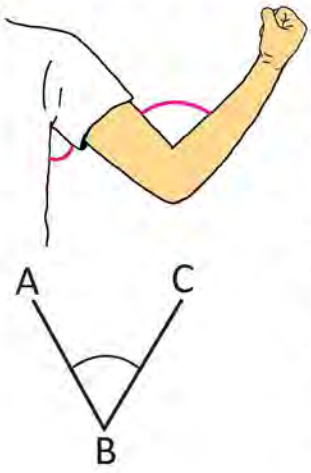
The points A and C are the end points. When writing the name of an angle, the vertex of the angle is written in the middle and the names of the end points are placed side by side



In the above angle, ∠ABC or ∠CBA

- The symbol of angle is ∠
- ∠ABC read as angle ABC

Raise your hand as shown in the picture.

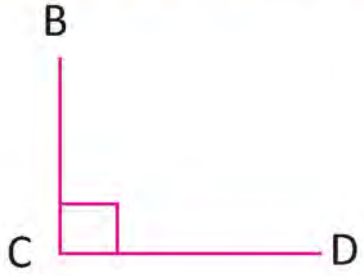


The shape formed by bending the hand is also an angle.

The arm and forearm of the hand can be considered as the sides and elbow considered as the vertex.

Here, AB and BC are sides and B is the vertex of ∠ ABC.

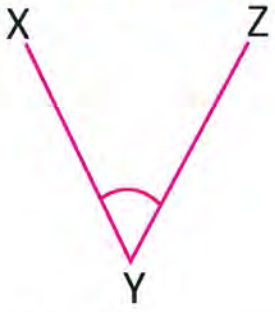
Write the name of the vertex, sides and angle.



Vertex: _____

Sides: _____

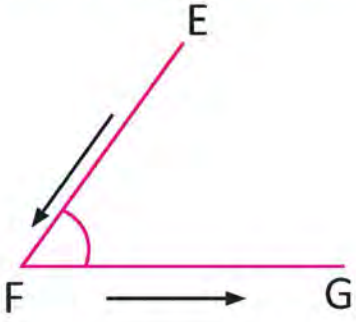
Angle: ∠ _____



Vertex: _____

Sides: _____

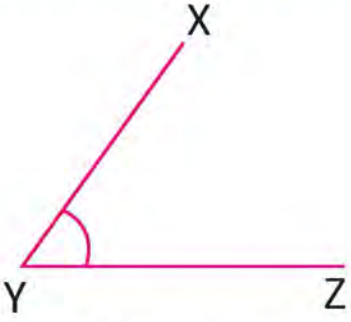
Angle: ∠ _____



Vertex: _____

Sides: _____

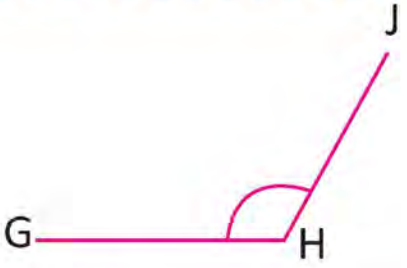
Angle: ∠ _____



Vertex: _____

Sides: _____

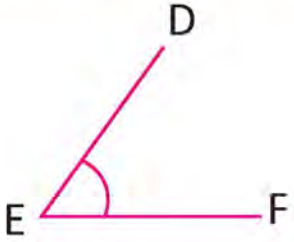
Angle: ∠ _____



Vertex: _____

Sides: _____

Angle: ∠ _____

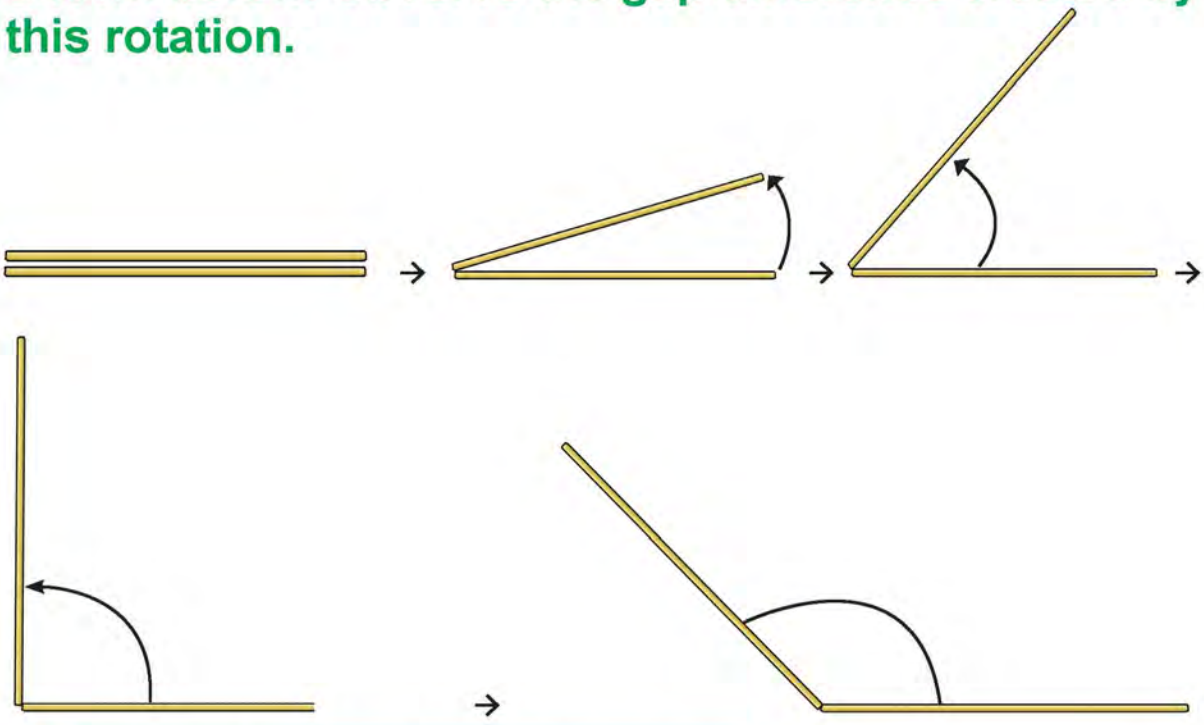


Vertex: _____

Sides: _____

Angle: ∠ _____

Keep the two sticks on the floor as shown in the pictures. Fix one of them and rotate the other as shown below. Observe the gap difference created by this rotation.

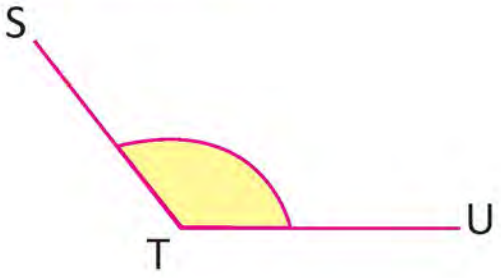


Increasing the gap between two sticks means increasing the size of the angle.

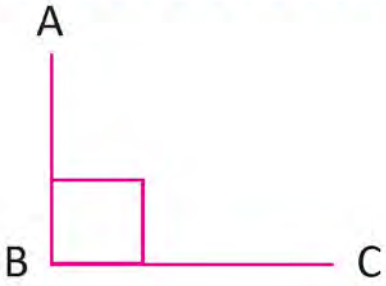
Make angles of different sizes using geoboard and rubber band. Observe those angles, distinguish between small and large angles and present them in the classroom.

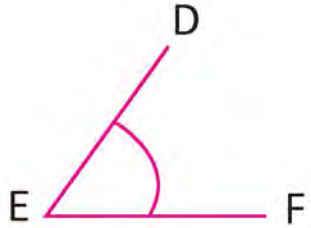
Colour the larger angle as shown below.

1.

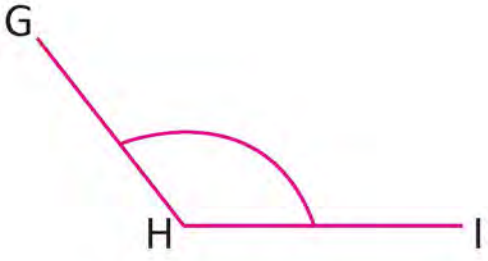


2.

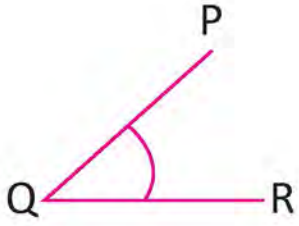




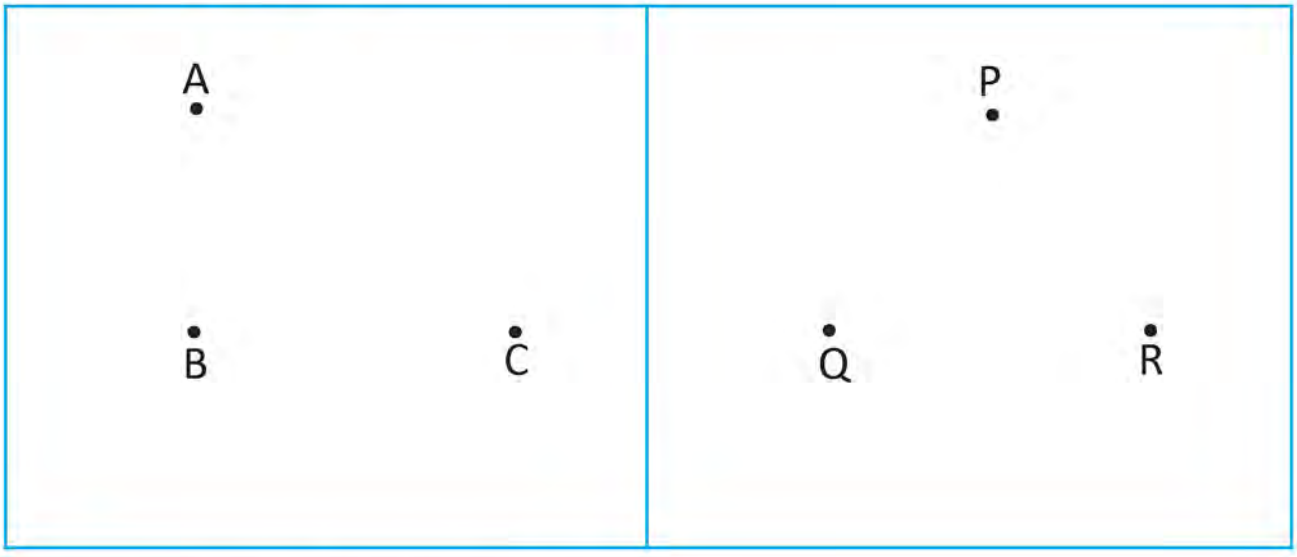
3.



4.



Construct an angle by joining the following points using a ruler.



Which angle is larger? ∠ _____

Which angle is smaller? ∠ _____

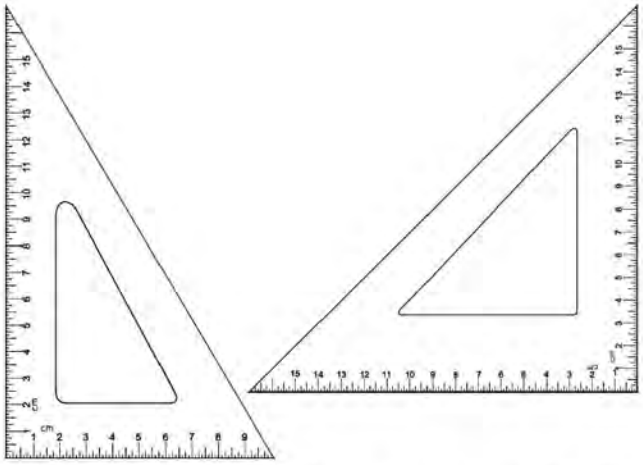
Draw the angles as given below.

∠ ABC

∠ DEF

Right angle

Take the pair of instruments inside your geometry box as shown in the picture below and discuss.



(a) Both of these instruments are in triangular shape. These instruments are called set squares.

(b) If the corners of these two instruments are gradually curved, the angles formed in one corner become equal.

(c) The equal angles shape is  .The angle formed at its corner is called right angle.

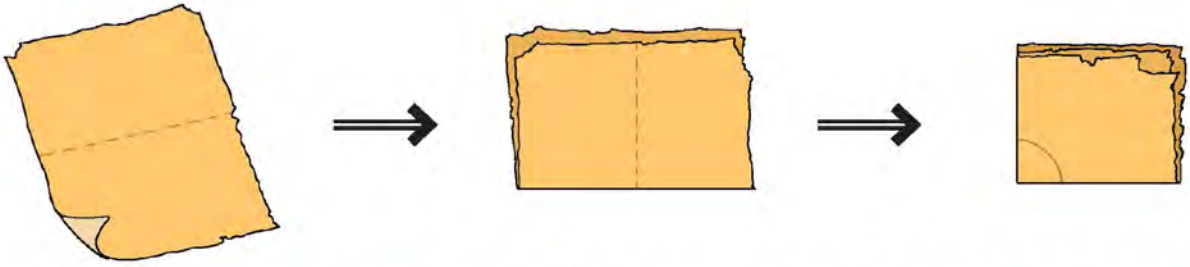
(d) The symbol of right angle is .... 

(e) The set squares can be used to check whether the given angle is right angle or not.

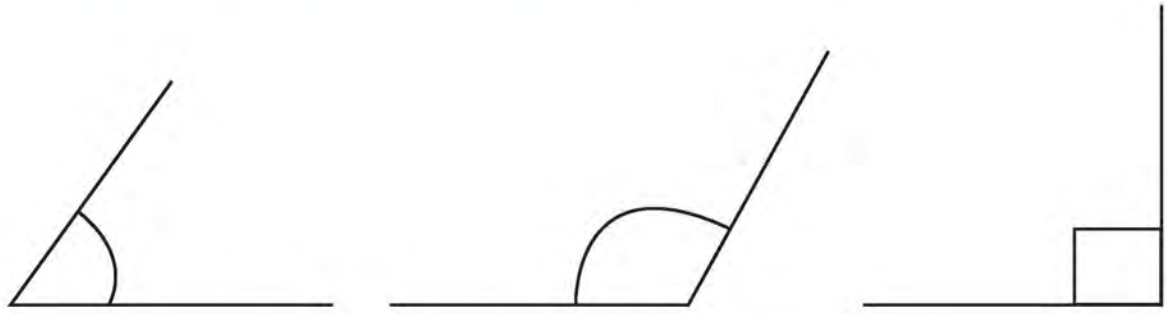
(f) Every corner of your textbook and copy sheet has a right angle.

Find and write where the right angles are formed on the objects around you.

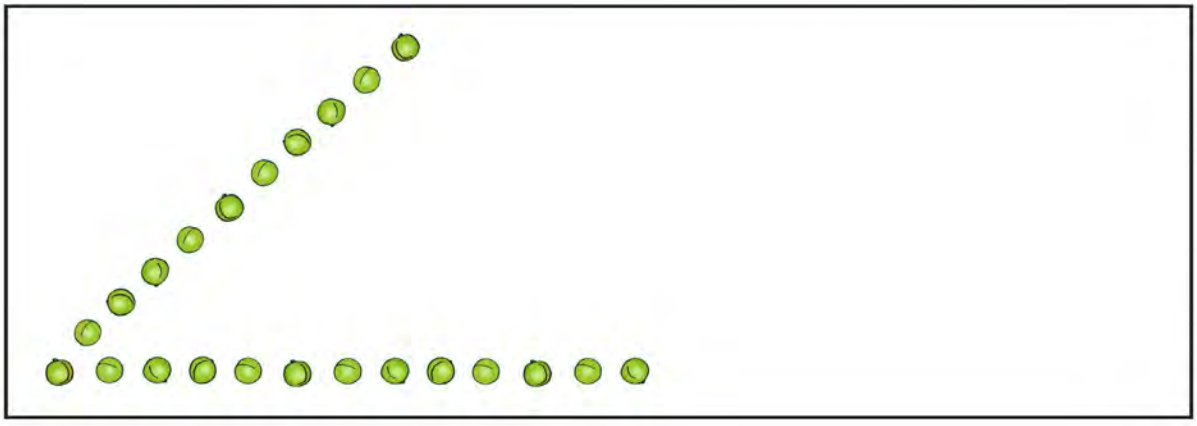
Make a measuring instrument of right angle by folding a paper.



Find the right angle using a right angle measuring instrument. Are the following smaller or larger than right angle? Compare them.



Draw angle larger than right angle and smaller than right angle on different sheets of paper using grains. How did you make the angle as shown in figure. Discuss in group and present in the classroom.



Lesson 11 Geometric Shapes

Triangle

Discuss

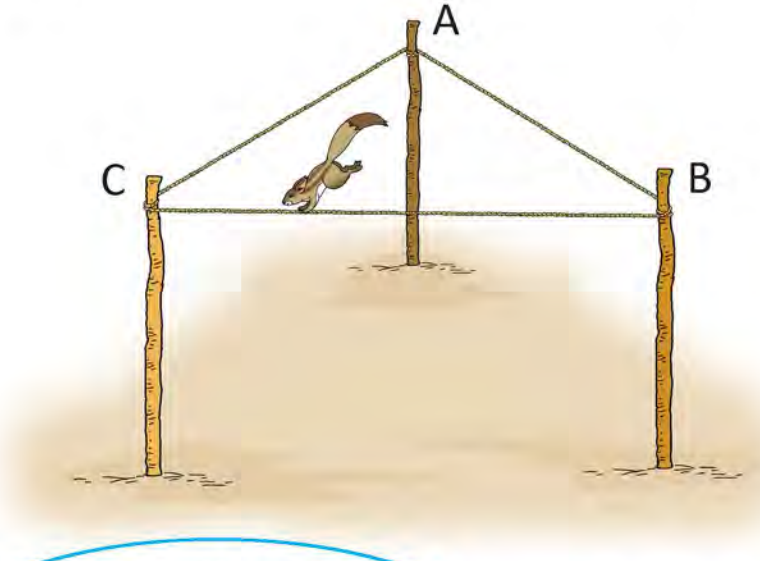
What is the shape of the middle of the road?

How many corners are there?

How many straight lines are there?

Discuss.

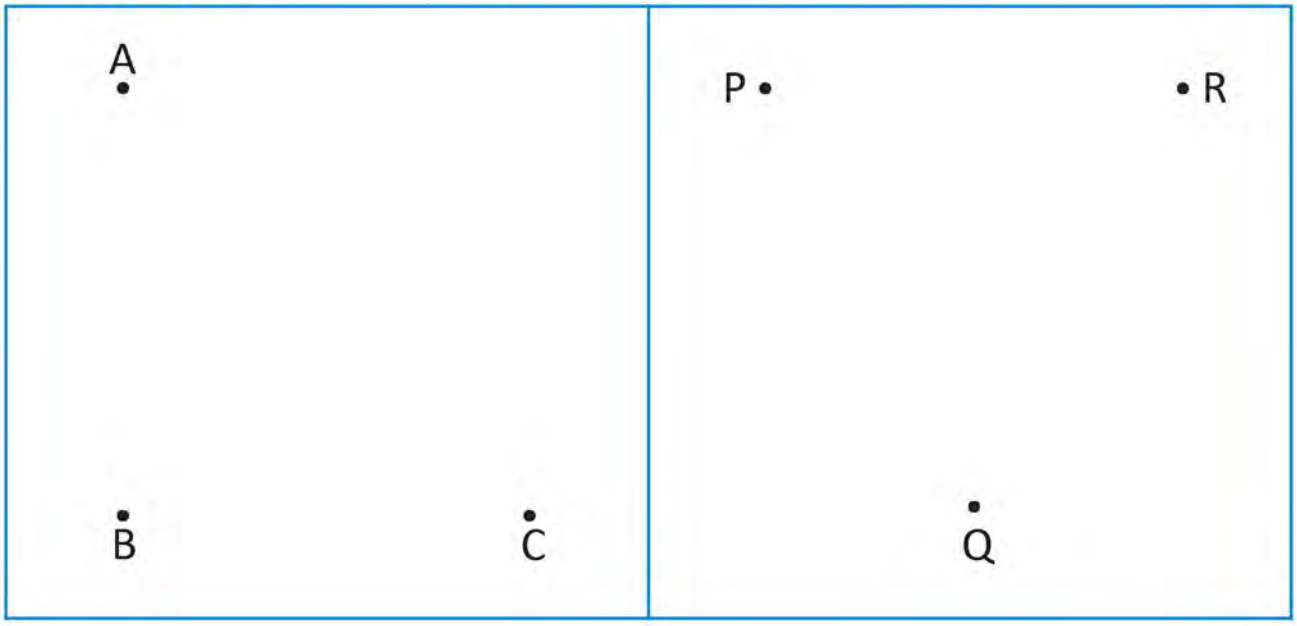
The rope is tied to three poles. A squirrel starts from A, passes through B and C, and reaches again to A.



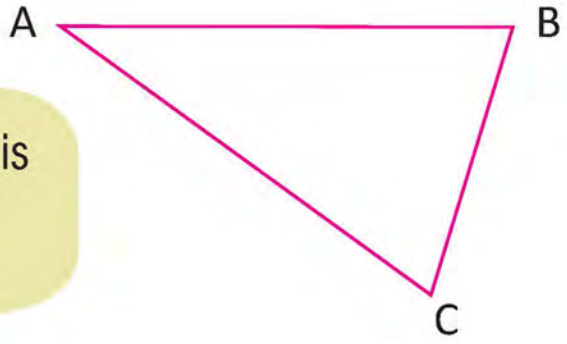
What is the shape of the rope path passed by squirrel.

It is a triangular.

Join the following points and make triangles using a ruler.



Discuss.



The adjacent triangle is triangle ABC.

What are the sides of the Δ ABC?

AB, BC and CA

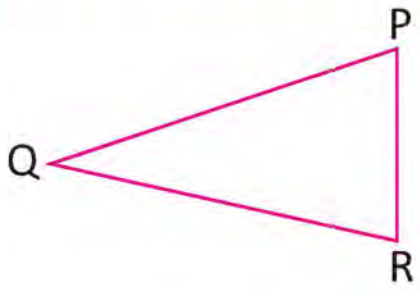
You are correct!

What are the vertices of the Δ ABC?

A, B and C are the vertices of the Δ ABC.

You are correct!

Write the name of sides, vertices and triangle.



Sides: PQ, QR and RP

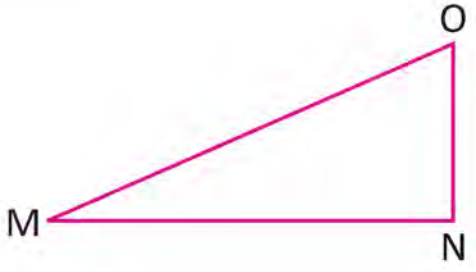
Vertices: P, Q and R

Δ PQR

Sides: ____, ____, ____

Vertices: ____, ____, ____

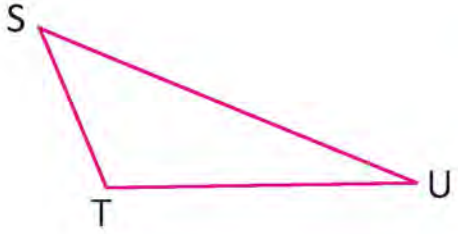
Δ _____



Sides: ____, ____, ____

Vertices: ____, ____, ____

Δ _____



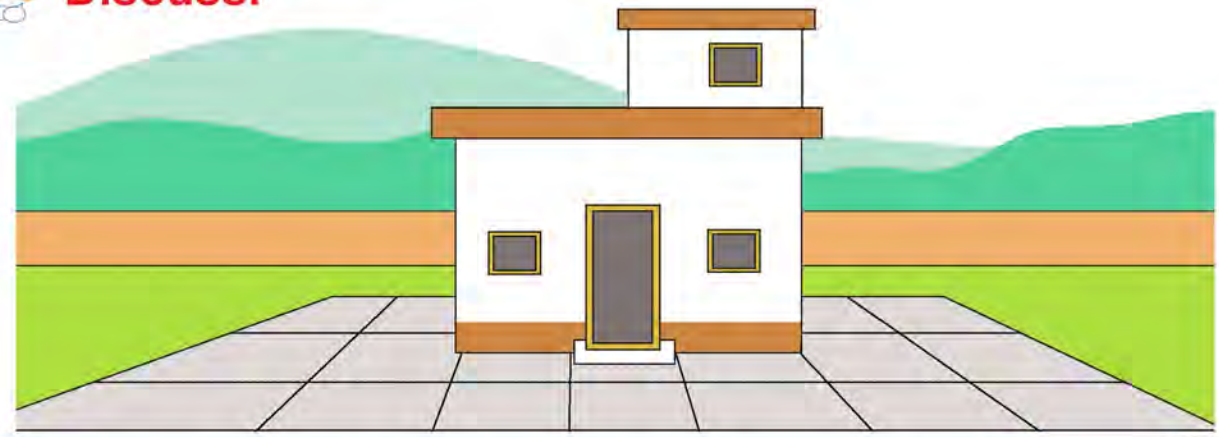
Sides: ____, ____, ____

Vertices: ____, ____, ____

Δ _____

Quardilateral

Discuss.



What are the shapes of the house and the yard in the given picture?

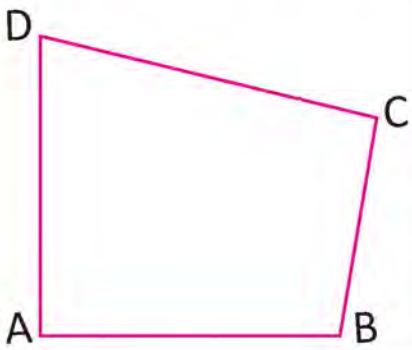
How many sides are there in each shape? → 4

How many corners are there in each shape? → 4

What is a closed shape with four corners and four sides called? → quardilateral

A closed shape made up of four straight lines is called a quadrilateral.

The adjoining figure is quadrilateral ABCD. A, B, C and D are the vertices and AB, BC, CD and DA are the sides of quadrilateral ABCD.



Quardilateral

Draw a quadrilateral using straight edges of objects.

Join the following four points and make quadrilaterals using a ruler.

A • • D

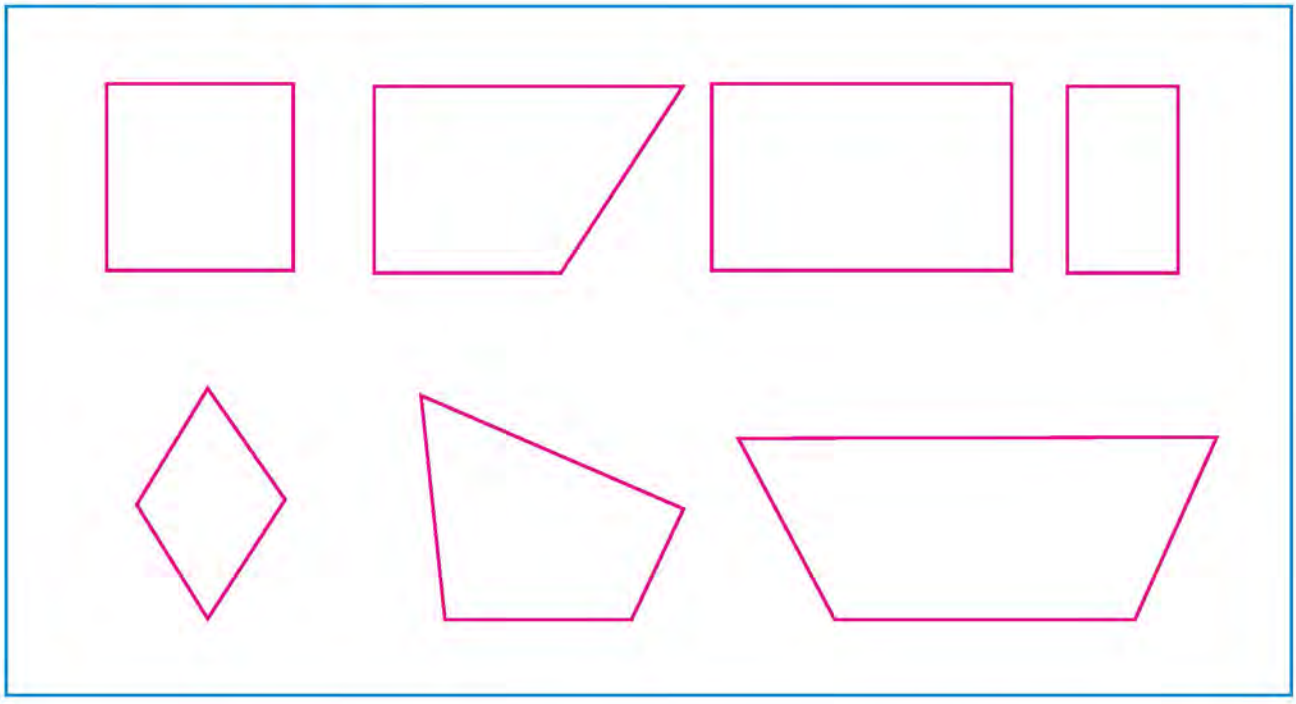
B • • C

P • • S

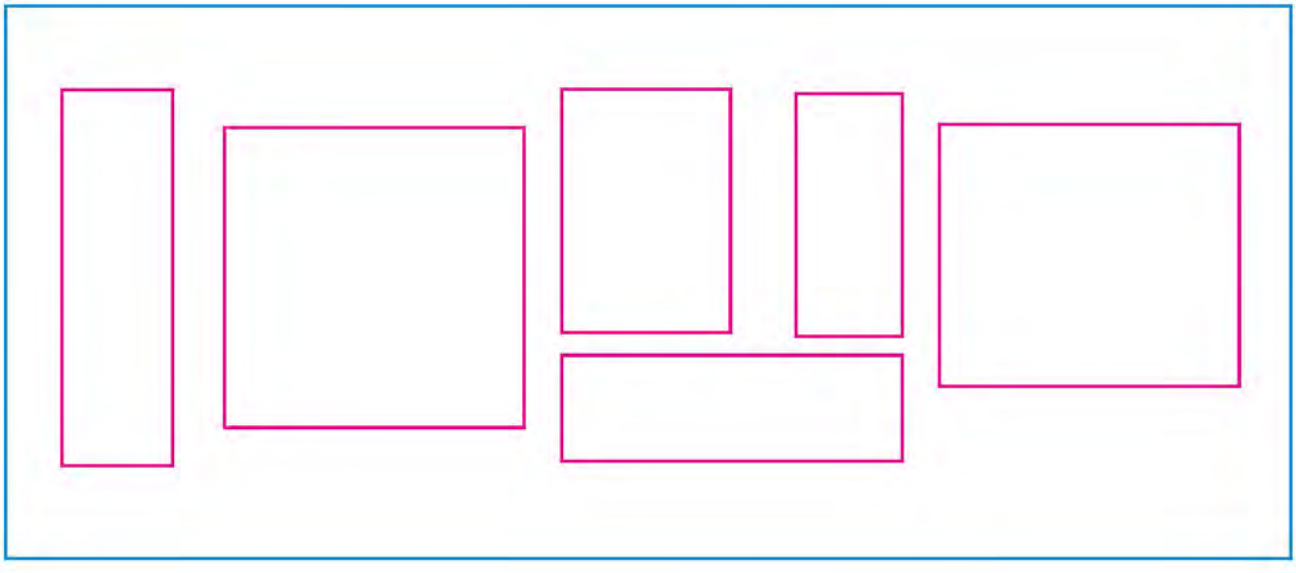
Q • • R

Geometrical shapes

Use a right-angled measuring instrument, identify the quadrilaterals having all angles right angle and colour them.



Using a ruler, identify the quadrilaterals having all sides equal and colour them.

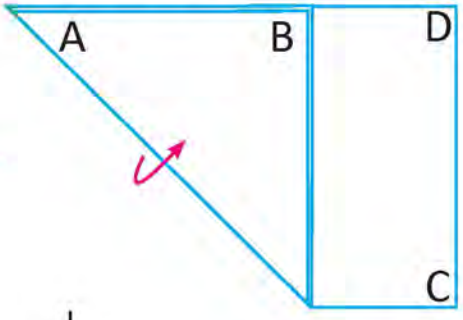


Square and Rectangle

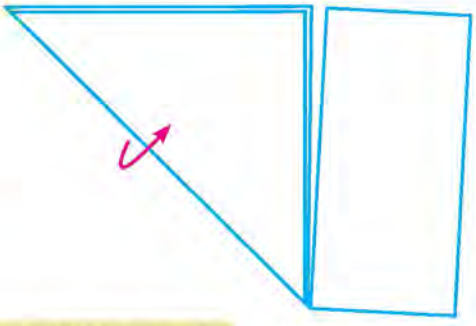
Do the following activities.

Take a rectangular sheet of paper.

Press one corner A with one finger and lift the other corner B with the other hand so that the edge meets to AD.



Cut out as shown as figure.



Unfold the remaining part.

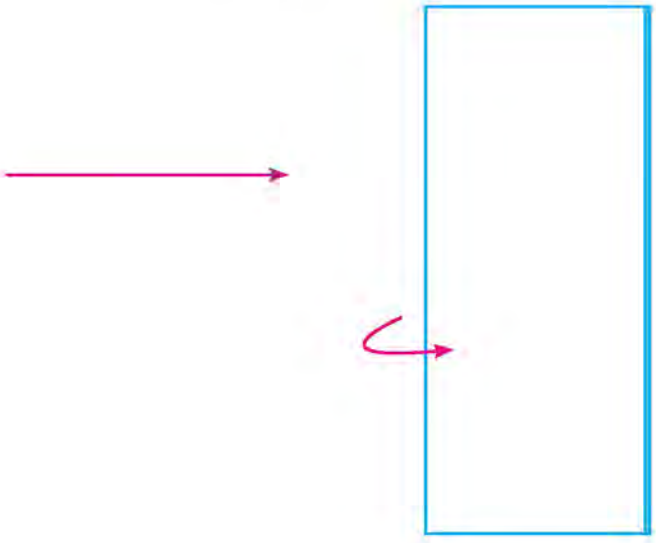
Measure the length of all the sides of it and what kind of a quadrilateral is it? discuss.

The shape of the paper you took at the beginning was rectangular, while the shape of the last part is square.

Do the following activities.

Take a sheet of rectangular paper.

Fold the right edge to left edge as shown in figure.

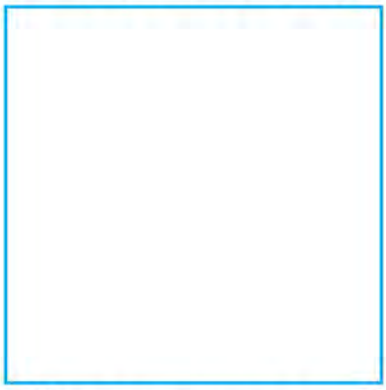


Take it off and fold the bottom edge to top as shown in figure.

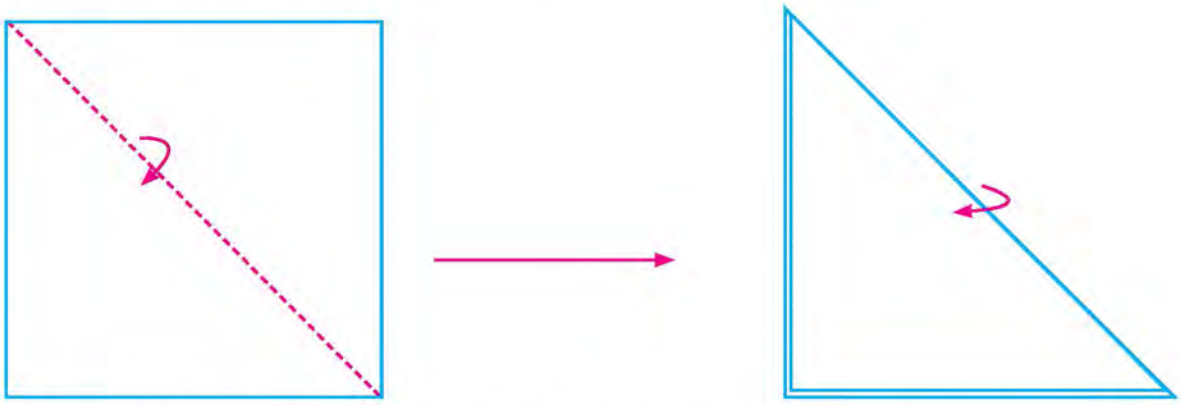
The right and left edges of the rectangle are equal to each other. Similarly, the top and button edges are also equal to each other.

Do the following activities.

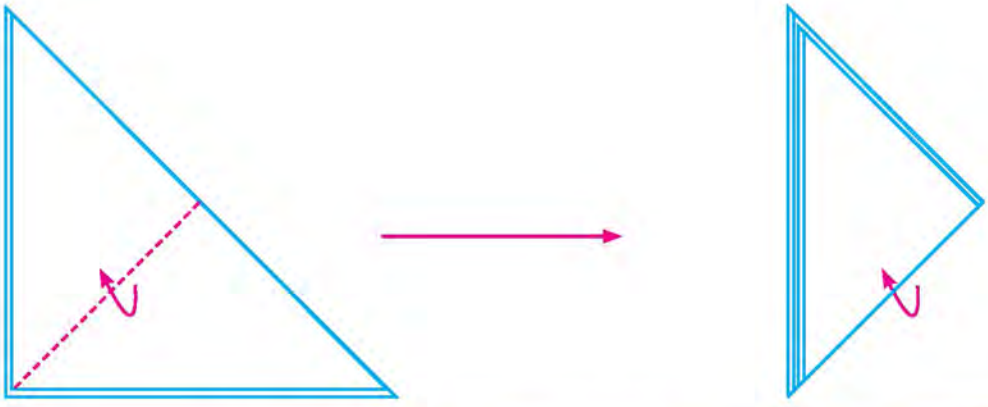
Take square sheet of paper.



Fold the opposite corners as shown in the figure.



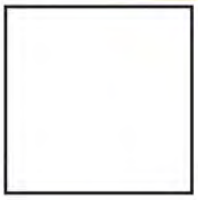
Again, fold the opposite corners as shown in the figure.



All the edges of the square are equal to each other.

Discuss.

A square has four equal sides and four equal angles.

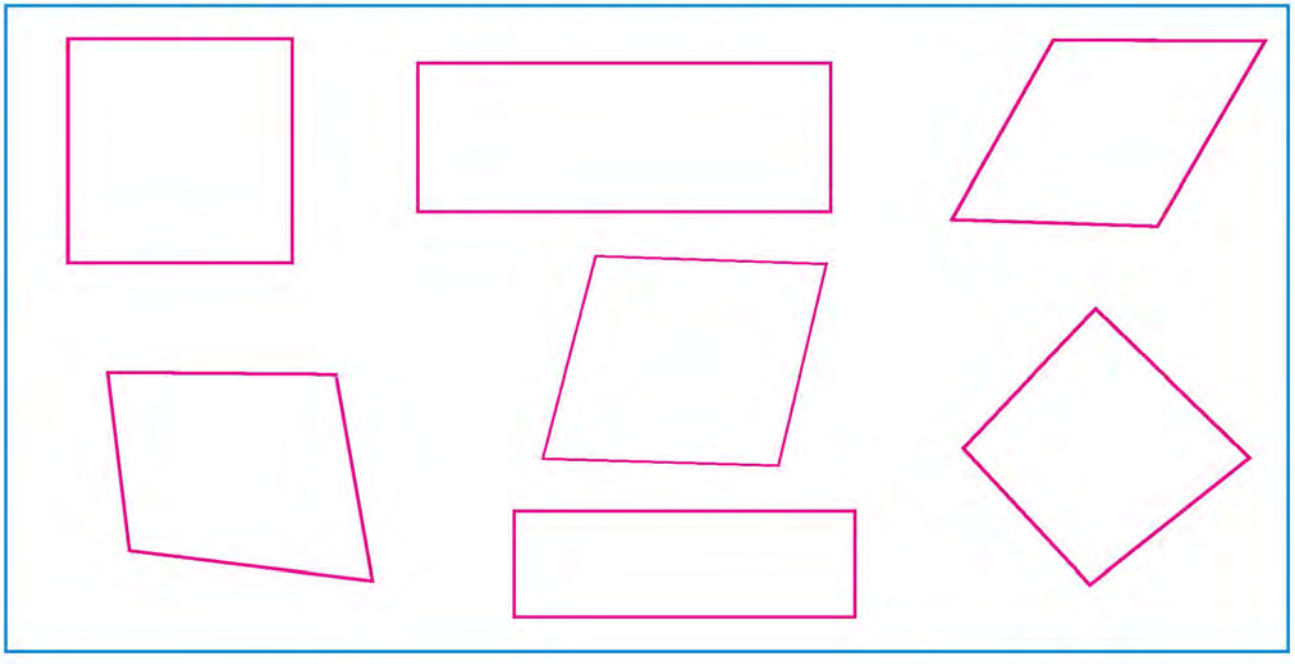


This is a square.

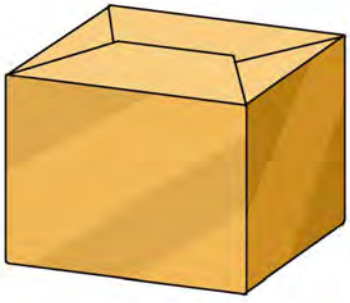
The opposite sides of the rectangle and all four angles are equal.

This is a rectangle.

Draw the pattern ▦ in the square and ▭ in the rectangle.



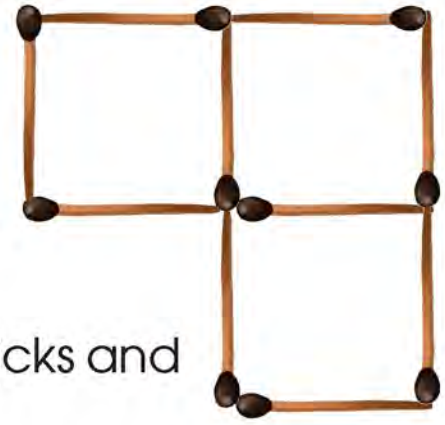
Tick (√) on the objects having rectangular surface and circle (o) on the object have square surface.



Join the following dots and make triangles, rectangles and squares using a ruler.

Let's play:

Take 10 matchsticks of equal size and make the shape as shown in the figure.



Method 1: Remove any two matchsticks and make two squares.

Method 2: Make a rectangle and a square by removing a matchstick.

My Creation

Let's see. How much have I learnt?

1. Draw a line segment joining the two points and measure using a ruler.

(a)

D •

C •

Line segment CD = _____ cm.

(b)

P •

• Q

Line segment PQ = _____ cm.

2. Draw a line segment of the given length and name.

(1) 5 cm.

(2) 10 cm.

3. Where are the angles formed in your classroom? Search and write the name of the place where the angles are formed.

4. Draw an angle joining the given points using a ruler and write the name of vertex, sides and angle.

A •

B • • C

Sides: _____ and _____

Vertex: _____

Angle: _____

L •

N • • M

Sides: _____ and _____

Vertex: _____

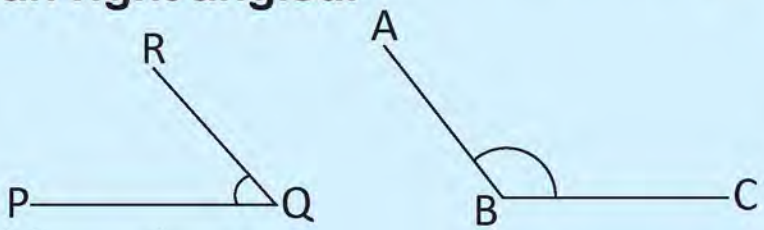
Angle: _____

5. Draw any two angles ∠ ABC and ∠ DEF and compare them.

∠ABC and ∠DEF

Smaller angle _____ Largeer angle _____

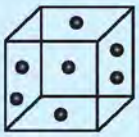
6. Compare the given pair of angle and write an angle which is greater than right angled.



Angle greater than right angle: _____

7. Draw a closed shape by joining the given points in a sequence and write the name of the shapes.

8. Identify and write the rectangular and square surface.



Teacher's signature

Parent's signature

Lesson 12 Addition

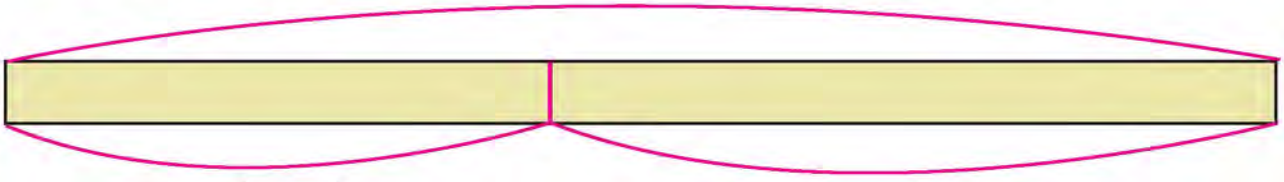
Hari has 12 eggs. Sita has 16 eggs. How many eggs do they have altogether?

Hari  Sita 

In mathematical sentence, 12 + 16 = 28

Let's look at the model

Hari has ☐ Eggs. Sita has ☐ Eggs.

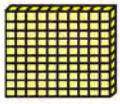
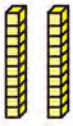
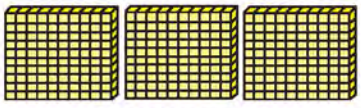
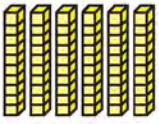
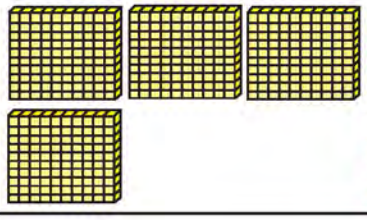
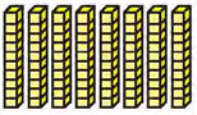


We have ☐ Eggs. Sita has ☐ Eggs.

Total ☐ Eggs.

Oh! this method is the very easy method for calculation.

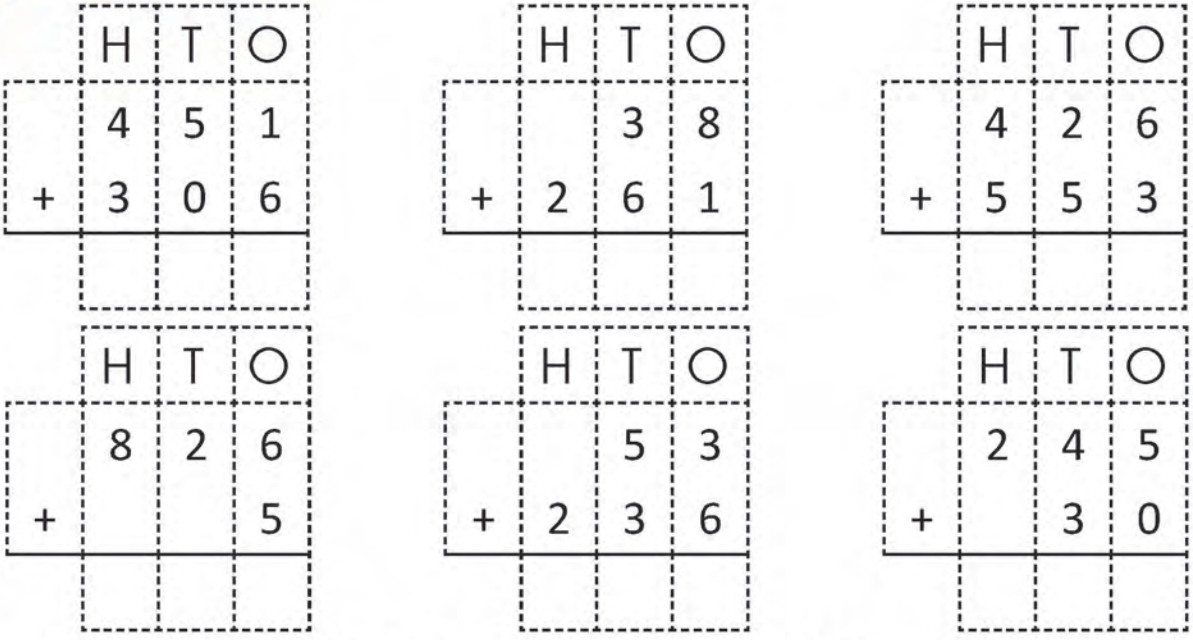
Ram Gopal and Dhaniya bought a flute worth Rs. 120 and a bag worth Rs.368 at a fair. How much money did they spend?

Hundreds (H)	Tens (T)	Ones (O)
		
		
		

	H	T	O
	1	2	0
+	3	6	8
	4	8	8

They have spent a total of Rs. 488.

Calculate:



	H	T	O
	4	5	1
+	3	0	6

	H	T	O
		3	8
+	2	6	1

	H	T	O
	4	2	6
+	5	5	3

	H	T	O
	8	2	6
+			5

	H	T	O
		5	3
+	2	3	6

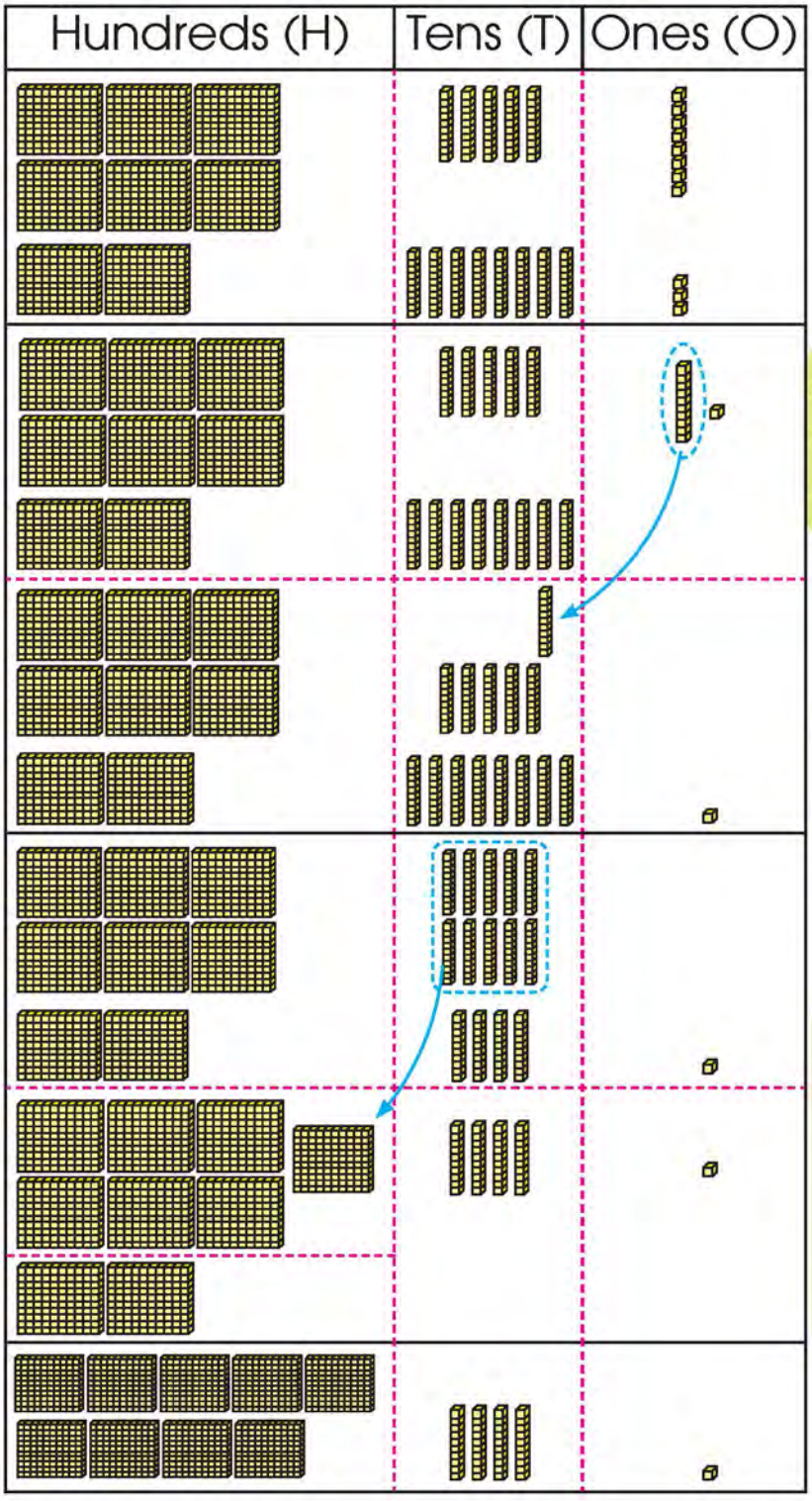
	H	T	O
	2	4	5
+		3	0

1. **There are 317 lichee trees and 242 mango trees in Rohit's garden. How many trees are there in his garden?**

2. **Narbu had 332 sheeps. He bought 314 sheeps from Angchhiring. How many sheeps did he have now? Calculate using blocks.**

Addition with carry-over

Nepal Adarsha Secondary School has 658 students. National Basic School has 283 students. How many students are there altogether?



	H	T	O
	1	1	
	6	5	8
+	2	8	3
	9	4	1

Adding 8 ones and 3 ones make 11 ones. 11 ones is 1 ten and 1 one.

Now, let's put 1 ten in place of tens.

Adding the numbers of tens place makes 14 tens. 14 tens is 1 hundred and 4 tens. Put 1 hundred in place of hundreds. Again adding the numbers of hundreds place makes 9 hundreds, so total is 9 hundreds 4 tens and 1 one. That is 941.

Calculate

	2	9	1
+		5	8

	2	5	6
+	4	7	6

	3	6	7
+		6	9

	1	9	8
+	5	0	5

		7	8
+	5	2	8

			9
+	6	9	5

Put in vertically and calculate.

156 + 448 85 + 793 857 + 93

+			

+			

+			

Addition of three digit numbers.

Read and discuss:

How can we add three digit numbers?

We/you have to start adding from ones place.

We/you have to write ten hundreds or 1thousand in thousands place.

	6	3	5
+	8	6	2
			7

→

	6	3	5
+	8	6	2
		8	7

→

	6	3	5
+	8	6	2
1	4	9	7

Calculate:

	7	2	4
+	5	1	4

	6	3	5
+	9	2	6

	8	9	0
+	4	9	3

	5	7	6
+	5	6	7

	2	9	4
+	7	5	1

	8	6	2
+	9	3	8

	9	0	8
+		9	5

			7
+	9	9	7

Calculate:

	5	4	5
+	1	4	6

	3	5	7
+	8	6	3

	6	5	7
+	6	5	4

	5	8	9
+		4	6

			5
+	1	4	6

		7	7
+	3	3	3

Calculate:

1. 365 microbuses on Sunday and 468 microbuses on Monday left Kathmandu through Nagdhunga. How many microbuses left Kathmandu on Sunday and Monday altogether?

2. Hira bought a sweater for Rs 560, a pair of shoes for Rs. 630 and a Jacket for Rs. 970. How much did she spend altogether?

3. Arun's father sold a goat for Re. 6490 and a sack of rice for Rs. 2540 in the market. How much money did he earn?

Addition of four digit numbers.

The population of two wards of a village municipality are 2415 and 1367 respectively. What is the total population in both the wards?

$$\begin{array}{r} 2415 \\ +\ 1367 \\ \hline \end{array}$$

$$\begin{array}{r} {\scriptstyle 1} \\ 2415 \\ +\ 1367 \\ \hline \end{array} \rightarrow \begin{array}{r} {\scriptstyle 1} \\ 2415 \\ +\ 1367 \\ \hline 2 \end{array} \rightarrow \begin{array}{r} {\scriptstyle 1} \\ 2415 \\ +\ 1367 \\ \hline 82 \end{array} \rightarrow \begin{array}{r} {\scriptstyle 1} \\ 2415 \\ +\ 1367 \\ \hline 782 \end{array} \rightarrow \begin{array}{r} {\scriptstyle 1} \\ 2415 \\ +\ 1367 \\ \hline 3782 \end{array}$$

Calculate:

$$\begin{array}{r} 3384 \\ +\ 5092 \\ \hline \end{array} \qquad \begin{array}{r} 1629 \\ +\ 4639 \\ \hline \end{array} \qquad \begin{array}{r} 2768 \\ +\ 2957 \\ \hline \end{array} \qquad \begin{array}{r} 5592 \\ +\ 1318 \\ \hline \end{array}$$

$$\begin{array}{r} 4754 \\ +\ 3284 \\ \hline \end{array} \qquad \begin{array}{r} 607 \\ +\ 7896 \\ \hline \end{array} \qquad \begin{array}{r} 6489 \\ +\ 519 \\ \hline \end{array} \qquad \begin{array}{r} 87 \\ +\ 2989 \\ \hline \end{array}$$

Add:

		3	9	8
		2	5	4
+		1	7	4

		5	8	7
		3	6	5
+		4	0	3

			6	5
		8	3	5
+		5	8	5

	2	9	5	4
	1	6	6	7
+	5	5	8	7

	5	9	7	6
	1	8	8	9
+		9	5	8

	4	6	9	7
	4	3	6	5
+		4	8	6

	4	5	6	7
		3	2	5
+	1	4	0	2

	6	1	2	3
	2	0	0	7
+	1	4	5	6

Calculate:

1. There are 1500 fishes in first pond, 2500 fish in the second pond. How many fishes are there in the both ponds?

2. Sandhya needs 7860 bricks to build a house and 2140 bricks to build boundry wall. How many bricks does she need in total?

3. There are 114 apples in one box and 86 apples in another box. How many apples are there in both the boxes?

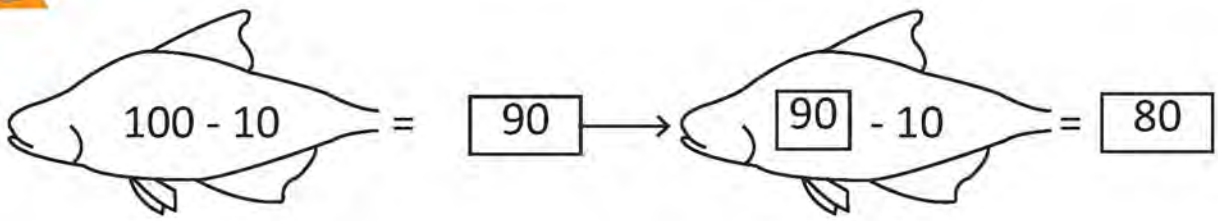
4. There are 469 street lights in Bhaktapur municipality and 105 street lights in Chagunarayan municipality. How many street lights are there in both the municipalities?

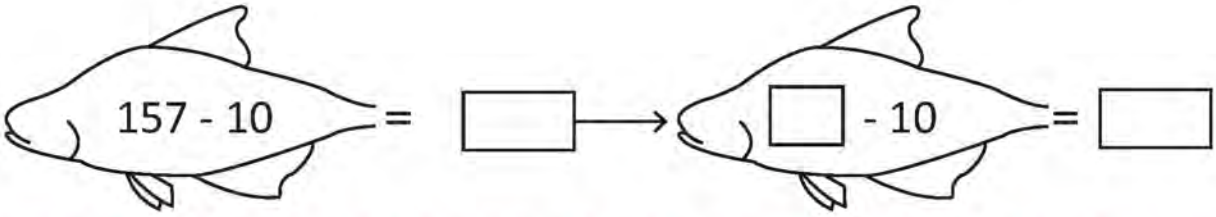
5. There are 975 chicken in one poultry farm. Another poultry farm has 98 chicken. How many chicken are there in both the poultry farms?

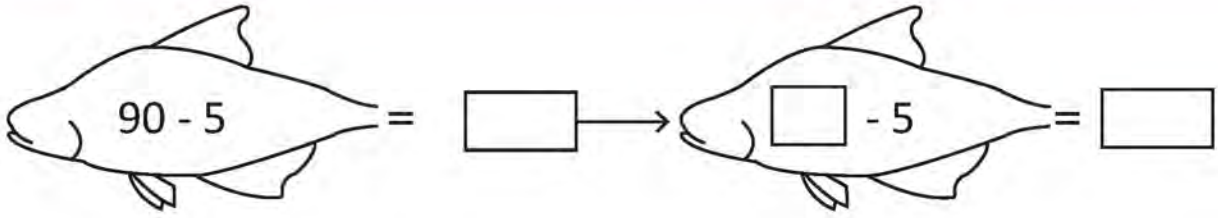
6. 286 mangoes were picked from the first mango tree, 309 from the second and 296 from the third. How many mangoes were picked from three trees?

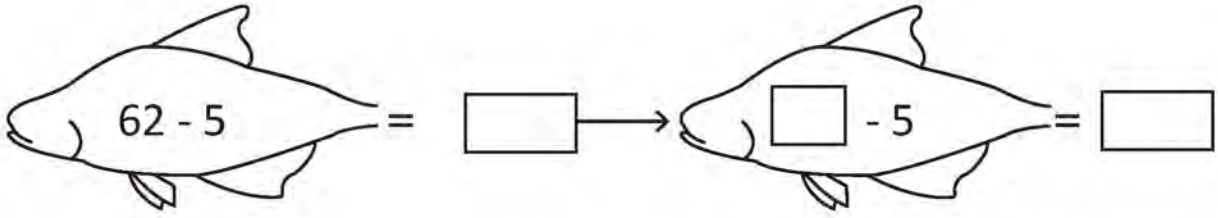
Subtraction

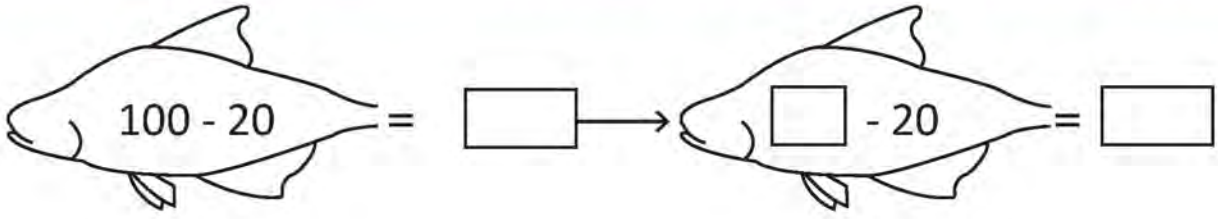
Subtract:

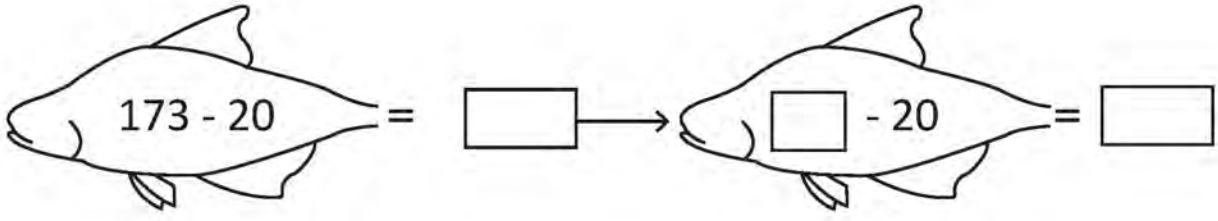












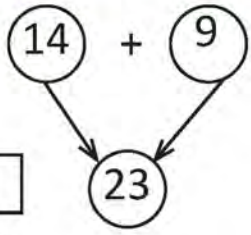
Relation between addition and subtraction

Discuss and fill in the blanks.

To find the sum, two numbers must be added.

To find the difference, you have to subtract the small number from the big number.

The sum of 14 and 9 is ☐.



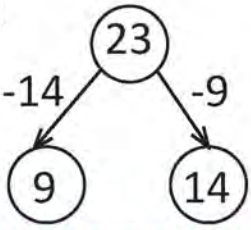
The sum of the two numbers is 23,

(i) If one number is 14 then another number is ☐

(ii) If one number is 9 then another number is ☐

(iii) The difference between 23 and 9 is ☐

(iv) The difference between 23 and 14 is ☐



The sum of 52 and 48 is ☐.

The sum of the two numbers is 100,

(i) If one number is 48 then another number is ☐

(ii) If one number is 52 then another number is ☐

(iii) The difference between 100 and 52 is ☐

(iv) The difference between 100 and 48 is ☐

60 + 45 = ☐

☐ + 45 = 105

60 + ☐ = 105

105 - 45 = ☐

105 - 60 = ☐

105 - ☐ = 60

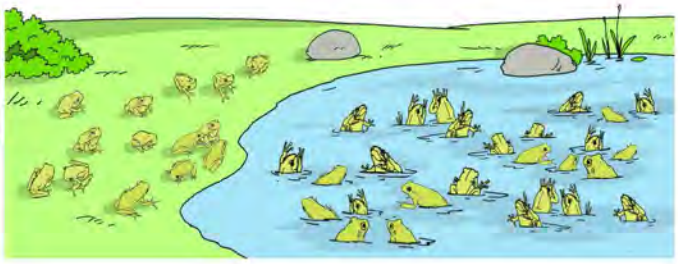
Complete the following mathematical sentences.

30	+	40	=	70	50	+	40	=	
70	-	30	=			-	50	=	40
70	-	40	=		90	-		=	50
70	+	80	=		100	+	90	=	
	-	70	=	80		-	100	=	90
150	-		=	70		-	90	=	100
20	+	10	=		20	+	20	=	
30	-		=	20		-	20	=	20
	-	20	=		40	-		=	20
50	+	40	=		50	+	50	=	100
90	-		=	40	100	-		=	50
	-	40	=	50		-	50	=	50
70	+	70	=		90	+	90	=	100
140	-		=	70	180	-		=	90
	-	70	=	70		-	90	=	90

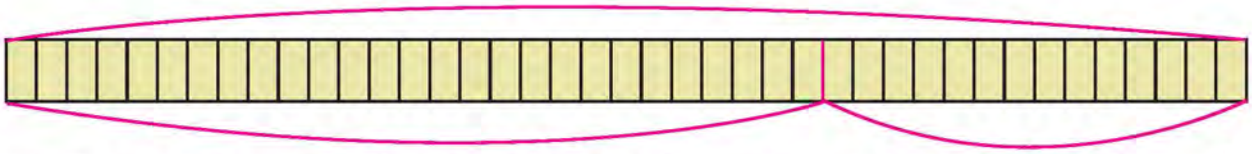
Addition and Subtraction

There are 27 frogs in a pond. 14 frogs jumped into the pond from outside. How many frogs are altogether in the pond?

Write the number of frog in the box. ☐



Total frogs = ☐



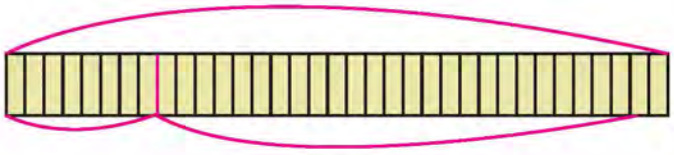
Number of frogs at the beginning ☐ added frogs ☐

Mathematical sentence ☐ + ☐ = ☐

Total frogs ☐

A fruit shopkeeper had 35 kg of apples. He sold 8 kg of apples. How many kilograms of apples are left with him now?

Apples in beginning ☐



We use subtraction to find out remaining.

Mathematical sentence

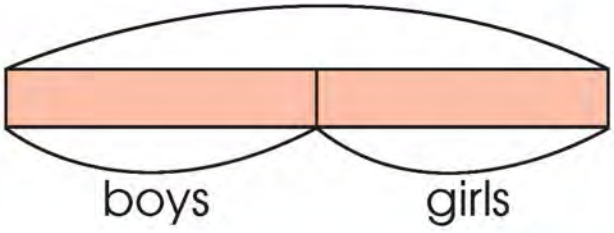
☐ - ☐ = ☐

Sold out apples ☐ Remaining apples ☐

☐ apples are remaining.

Add and subtract

There are 25 students in a class. If there are 13 girls, how many boys are there?

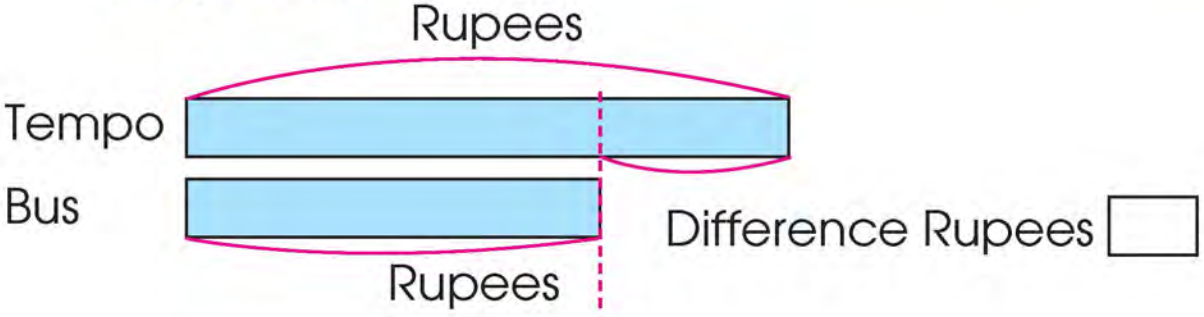


Mathematical sentence

□ + □ = □

Total girls = □

When a person goes to his office from home, the fare is Rs. 20 for tempo and Rs. 15 for bus. Find the difference on the fares between two means transportations.



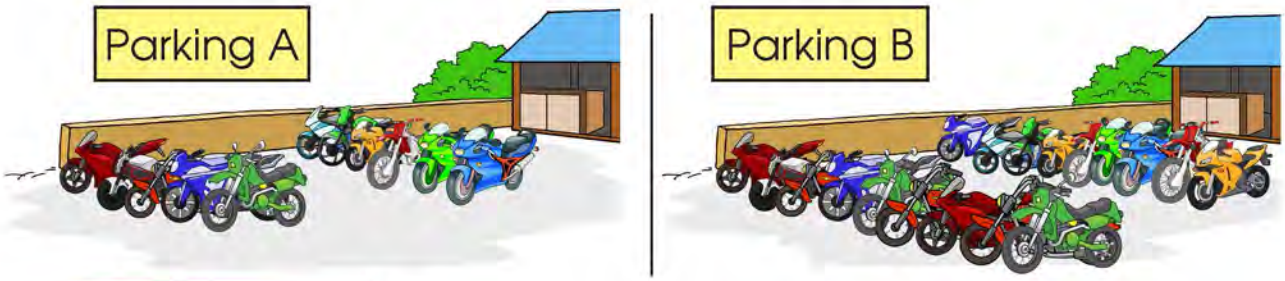
To find out the difference in fare here should be subtract.

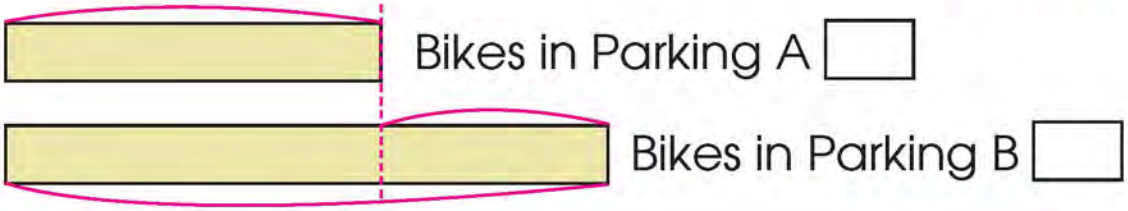
Mathematical sentence

□ - □ = □

□ Rupees

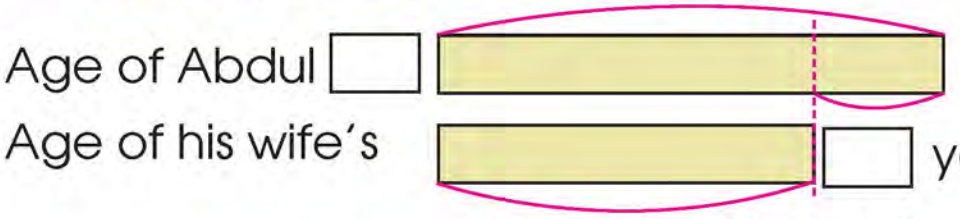
There are 11 bikes in the parking A. In the parking B, there are 7 more bikes than the parking A. How many bikes are there in the parking B?



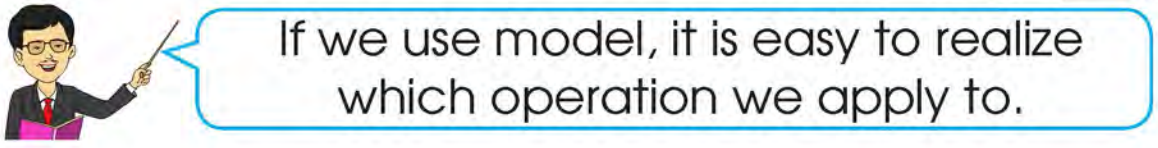


Bikes in Parking B = ☐

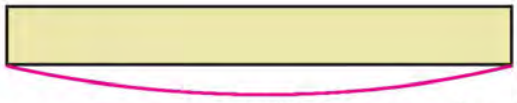
Abdul is 48 years old. His wife is 9 years younger than him. How old is his wife?



His wife's age ☐



Parvin finished reading 143 pages of his mathematics book yesterday. He read upto 179 pages today. How many pages did he read today?



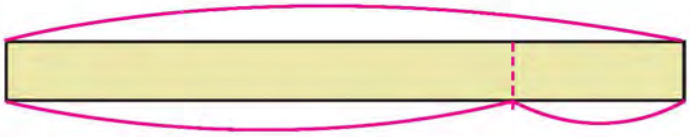
pages read till yesterday ☐

143

pages read till yesterday ☐

143 + ☐

the pages read today ☐



pages read till yesterday ☐

143 + ☐ = 179

the pages read today ☐

☐ is what we want to know.

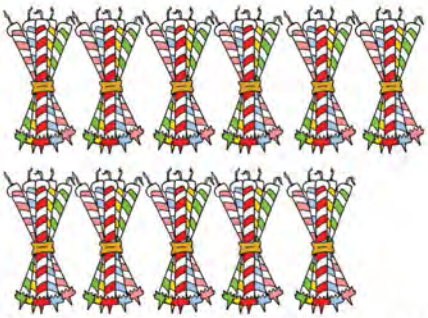
We can find out the number that satisfies 143 + ☐ 179.

Using and thinking these model, we can use in subtraction, also.

Well, it means 179 -143 = ☐

Pravin read ☐ pages today.

Hari had 55 candles. He gave several candles to his sister, then there are 42 candies remain with him. How many candles did he give to his sister?

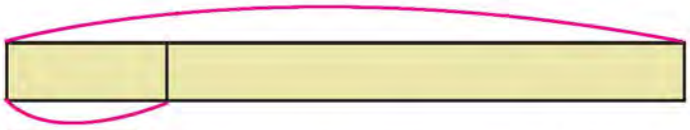


At the fist, Hari had at the ☐ candles.

55

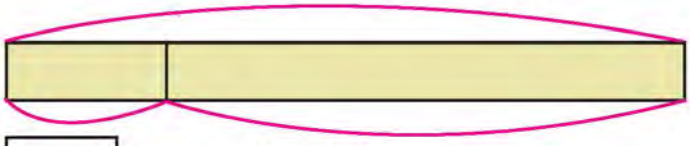
55 - ☐

☐ candies Hari had at the first



☐ candles Hari gave to his sister

Total candles at first = ☐



55 - ☐ = 42

☐ given to sister

remaining candles ☐

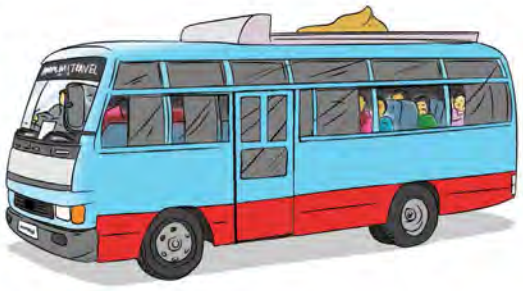
From the above figure,
write in Mathematical sentence,
55 - 42 = ☐

Hari's sister got ☐ candies.

I got ☐ + 42 = 55 as the mathematical sentence of this problem.

Well done! We can make a mathematical sentence from addition to subtraction, also from subtraction to addition, and calculate.

Some people are travelling by a bus from Kathmandu to Pokhara. When they reached Muglin, seven people got off the bus. Now there are 19 people left in the bus, how many people have travelled the bus from Kathmandu?



☐ Passengers travelled the bus from Kathmandu.

☐

☐ Passengers travelled the bus from Kathmandu.

☐ - ७

Passengers got off the bus at Muglin.

☐ Passengers travel in bus from Kathmandu.

☐ - 7 = 19

Passengers got off the bus at Muglin.

Passengers remaining in bus.

Passengers travelled the bus from Kathmandu ☐

How can we write mathematical sentence in this problem?

7 + 9 = ☐

☐ - 19 = 7

☐ - 7 = 19

It is important to understand the context to solve the problem.

Hari had planted some orange plants till yesterday. Today he planted 20 more orange plants. If total of 75 orange plants have been planted in Hari's garden, how many saplings have been planted till yesterday?

☐ Orange plants planted till yesterday.

Orange plants planted till yesterday ☐

☐ + 20

Orange saplings planted today ☐

Total orange plants plants are = ☐

Plants planted till yesterday ☐

☐ + 20 = 75

Today planting plants ☐

He has ☐ orange saplings planted till yesterday.

Write in mathematical sentence:

75 - ☐ = 20

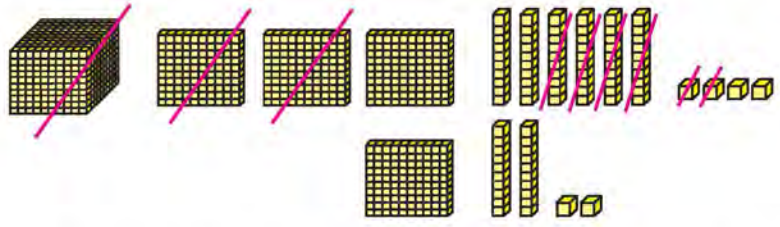
75 - 20 = ☐

There are 1364 buffaloes in Rampur village. Among them, 1242 buffaloes have been insured. How many buffaloes are left to be insured?

Animal Development Bank
Bara, Nepal
Livestock insurance record

Owner's name : Ram Lakhan Yadav
Types of animal : Cow/Ox/Buffalo/Ranga
Reg.no : 1301
Insurance period : 2078/01//1 to 2078/12/30
Insurance amount : Rs 90,000
Rs. 90,000 will be given in case of death of the animal during this period.
Date: ..... Signature of Authority.....

Subtract the number of buffaloes using ten base blocks,



	Th	H	T	O
	1	3	6	4
-	1	2	4	2
		1	2	2

122 Buffaloes are left to be insured.

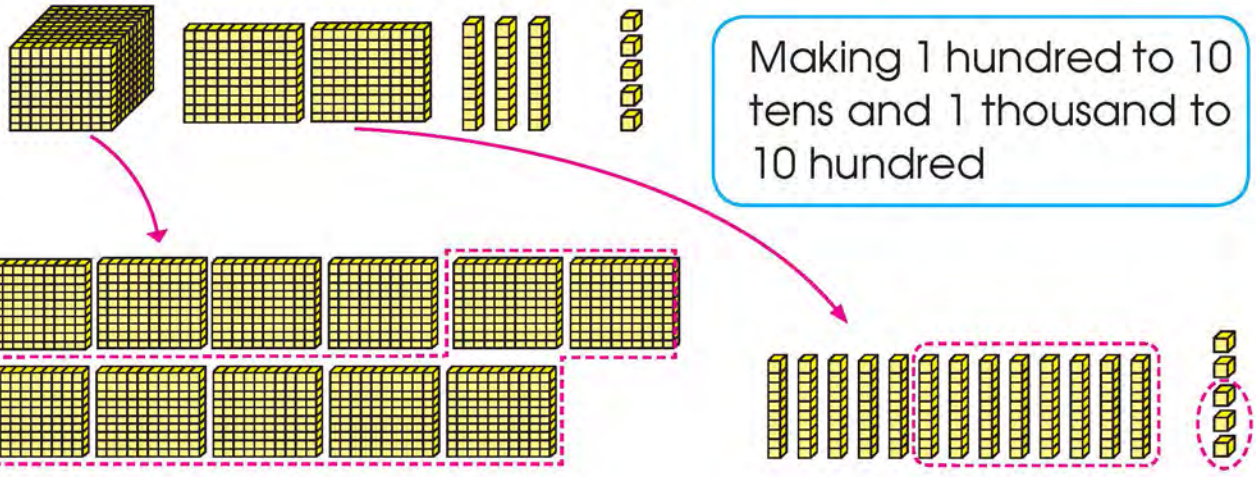
Subtract:

	Th	H	T	O
	7	8	0	9
-	4	3	0	4

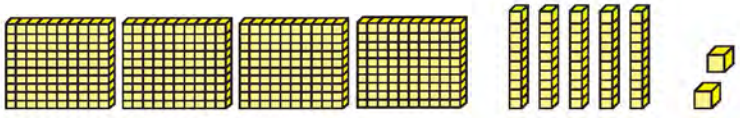
	Th	H	T	O
	9	8	7	5
-	4	3	3	5

There are 1235 orange trees in Parashuram's garden. Of those plants, 783 have beared fruits, then how many orange trees have?

re-grouping orange plants using ten base blocks



Remaining:

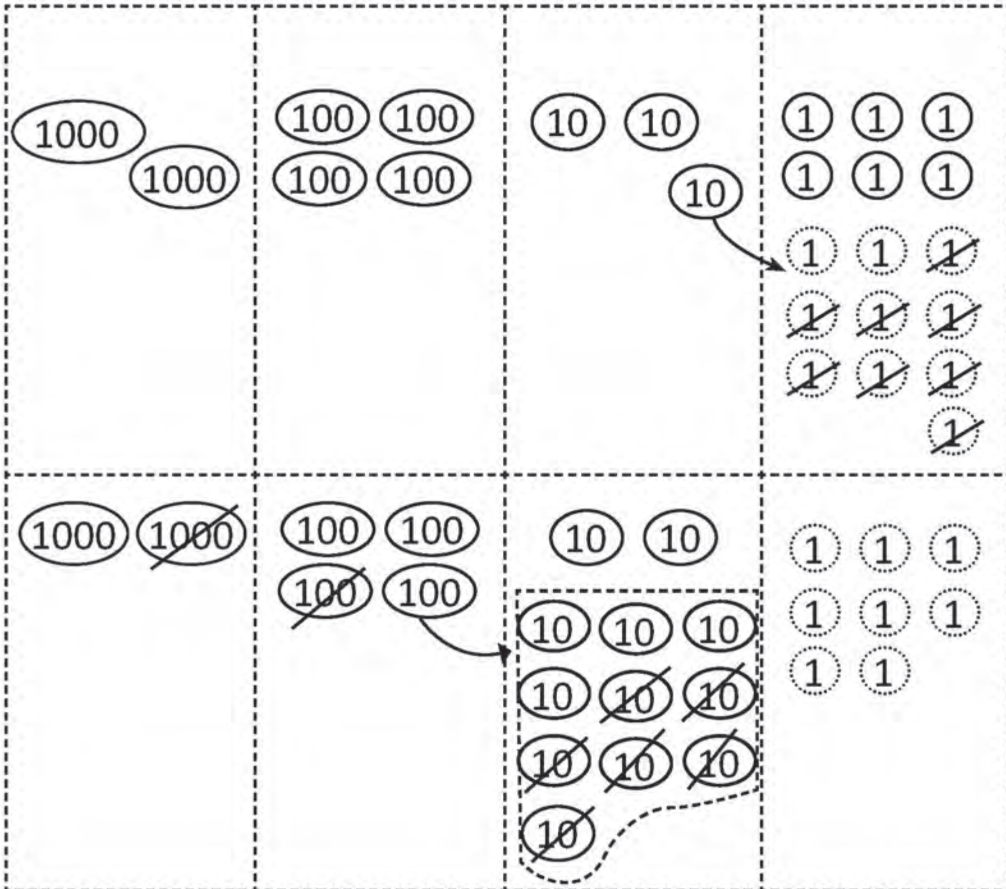


452 orange trees did not bear oranges.

	Th	H	T	O
		11	13	
	1	2	3	5
-		7	8	3
		4	5	2

Subtract.

```
   2 4 3 6
 - 1 1 6 8
```



First step	Second step	Third step	Fourth step
2 16 2 4 ~~3~~ ~~6~~ - 1 1 6 8 8	3 12 16 2 ~~4~~ ~~3~~ ~~6~~ - 1 1 6 8 6 8	3 12 16 2 ~~4~~ ~~3~~ ~~6~~ - 1 1 6 8 2 6 8	3 12 16 2 ~~4~~ ~~3~~ ~~6~~ - 1 1 6 8 1 2 6 8
Subtract the numbers in ones place	Subtract the numbers in tens place	Subtract the numbers in hundreds place	Subtract the numbers in thousands place

Subtract:

	6	3	9	5
-	3	7	4	0

	5	3	2	4
-		3	6	4

	6	3	5	6
-	4	3	4	8

	9	6	3	2
-			8	9

	8	7	6	5
-	6	3	9	8

	7	3	6	0
-	2	3	0	8

	7	3	6	0
-	2	7	9	6

	5	0	0	0
-				1

Some species of birds come to Nepal from North Asia to avoid winter. These birds fly at an altitude of 9395 metres above sea level. If the height of Mt. Machhapuchhre is 6993 metres, how high do these birds fly above Mt. Machhapuchhre?

The airbus A380 can carry 853 passengers. Largest aircraft A330 of Nepal airlines can carry 277 passengers. How many more passengers can travel in A380?

Calculate:

1. In the first year, 2972 buses entered Nepal. The next year, 2,354 new buses entered Nepal. How many more buses entered the first year than in the second year?

2. A mobile phone costs Rs 1,950. Pema has only Rs 1,580. How much more money does he need to buy the mobile?

3. In Jumla, farmers sell a box of apples to traders for Rs 1,250. The apples are bought by the consumers of Nepalgunj for Rs. 1920. How much did the traders sell the apples for?

4. Among 2163 students of Jana Adarsh Secondary School, 296 live in hostel. How many students do not live in the hostel?

5. Ramesh has Rs 4,000. If he bought a jacket for 1550 rupees, how much rupee is with him now?

6. Ramrizan decided to plant 1,200 papaya plants in his garden. Currently, there are 784 papaya plants in his garden. How many new plants should be planted?

The table gives the details of mountains with an altitude of less than eight thousand metres located in Nepal. Based on that, find the answers to the following questions.

S.N.	Name of mountains	Height (in metre)
1.	Ganesh Himal	7,163
2.	Gauri Shankar Himal	7,134
3.	Saipal Himal	7,031
4.	Jugal Himal	6,535
5.	Bhrikuti Himal	6,364

a. How much is the height of Ganesh himal more than the height of Gaurishankar himal?

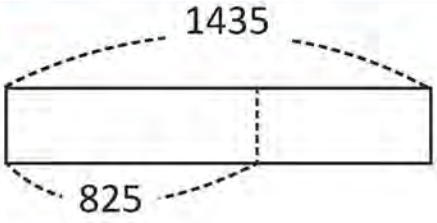
b. How much is the height of Jugal himal less then the height of Saipal himal?

c. What is the difference between the height of Ganesh Himal and Bhrikuti Himal?

Calculate:

1. **Sneha and Sugat mixed 158 and 89 rubber bands to make a Chungi. Now how many rubber bands are there in that Chungi?**

2. **The sum of the two numbers is 1435. If one number is 825, what is another number?**



3. **One event had 1,350 seats for people. If only 1273 people came, how many seats were left vacant?**

Calculate:

1. **The cost of two types of watches are given below. How much the cost of watch A is more than watch B?**

Clock 'A'	Rs. 3,659

Clock 'B'	Rs. 2,164

2. **Our cooperative has 3678 members. If 1989 are females, find the number of male members.**

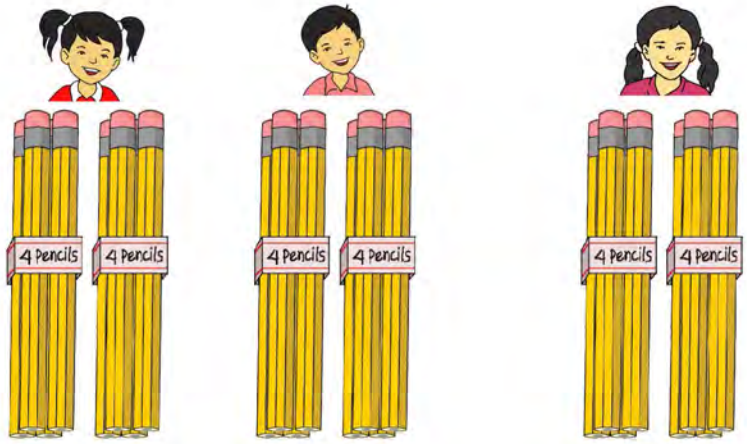
3. In the month of Baishakh, Alam earned Rs. 3687 by selling milk, Rs. 3256 by selling vegetables and Rs. 2057 by selling fruits. What is his total income for the month of Baishakh?

4. In the year 2076 BS, 1958 Nepali tourists and 867 foreign tourists visited 10 home stay in Jaljala village. How many tourists came on that year?

5. A cinema hall sold 2123 tickets on Saturday, 1982 tickets sold on Sunday and 1876 tickets on Monday. How many tickets have been sold in three days? If cinema hall set a target of selling 5,000 tickets in three days, how many more tickets were sold than the target?

Multiplication

A teacher wants to provide 2/2 packets of pencils having 4 pencils in each packet to three students. How many pencils will he need?



For one student,
$4 \times 2 = 8$
for 3 students,
$8 \times 3 = 24$

Total packets
$= 2 \times 3 = 6$
1 packet has 4 pencils,
Therefore,
$4 \times 6 = 24$

In total ☐ pencils wil be needed.

$4 \times 2 \times 3$

$(4 \times 2) \times 3 \quad = \quad 4 \times (2 \times 3)$

$4 \times 2 \times 3$

Multiplying by the above two methods, the product is the same.

Calculate $3 \times 2 \times 3$ by both methods.

Method 1 : $(3 \times 2) \times 2 = \square \times 2 = \square$

Method 2 : $3 \times (2 \times 2) = 3 \times \square = \square$

Calculate $2 \times 2 \times 4$ by both methods.

Method 1 : $(2 \times 2) \times 4 = \square \times 4 = \square$

Method 2 : $2 \times (2 \times 4) = 2 \times \square = \square$

Calculate:

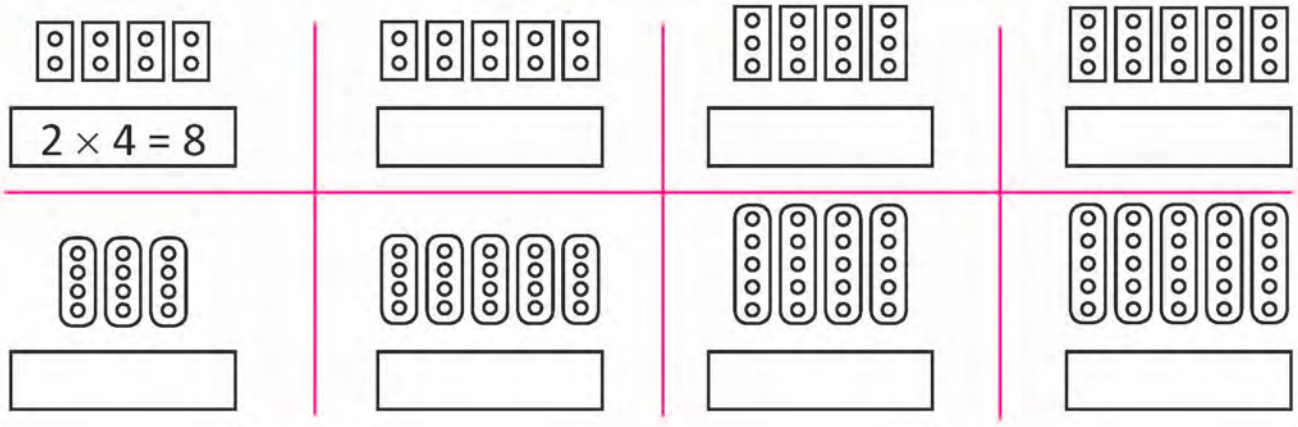
$3 \times 3 \times 2 = \square$

$2 \times 2 \times 3 = \square$

$3 \times 2 \times 4 = \square$

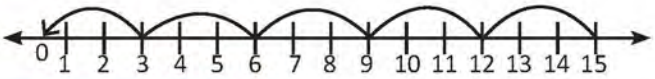
$2 \times 4 \times 2 = \square$

Look at the picture and write in the form of multiplication.



Multiply by zero

Sita and Hari are observing the multiplication tables given below. What is the product of 3 and 0?



Think about product of 3 and 0.

:	
:	
3 × 5 = 15	
3 × 4 = 12	decrease by 3
3 × 3 = 9	decrease by 3
3 × 2 = 6	decrease by 3
3 × 1 = 3	decrease by 3
3 × 0 = ?	decrease by 3

The product is decreasing by 3

The product of 3 × 0 is zero, subtracting 3 from.

Multiplying a number by zero is zero.

□ × 0 = 0

We can put any number □

Similarly, 0 × □ = 0

Calculate:

8 × 0 = □

0 × 2 = □

1 × 0 = □

0 × 4 = □

9 × 0 = □

0 × 7 = □

0 × 5 = □

0 × 0 = □

Multiplication Table

Fill in the blanks.

Let's think! how can we find the product?

×	1	2	3	4	5	6	7	8	9	10
1	1	2								
2										
3			9							
4										
5									45	
6										
7										
8										
9					45					
10										

Multiplication of a two digit numbers by one digit numbers

There are 3 children in a family. How much money does their grandmother need to give them 21 rupees each?

In total grandmother need Rs. 63.

We can solve above problem in different way.

Rs. 21 for each child

there are 3 children.

1 Rupee × 3 = 3 Rupees

20 Rupees × 3

= 60 Rupees

Total 63 Rupees

In mathematical sentence,

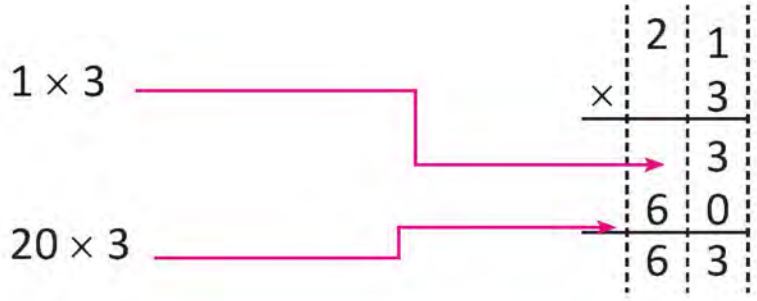
$21 \times 3 =$ ☐

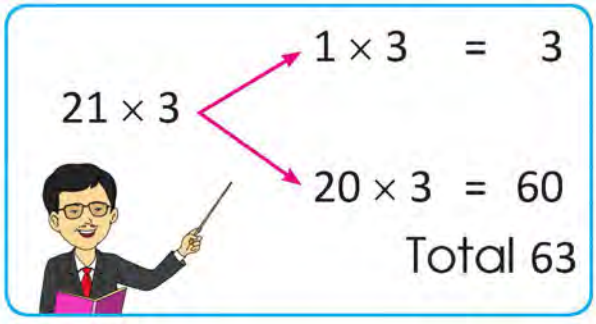
$21 \times 3 = 63$

Let's learn how to multiply by placing it vertically.

Multiplying 21 × 3, vertically

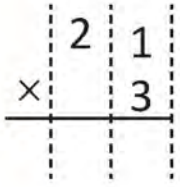
21×3



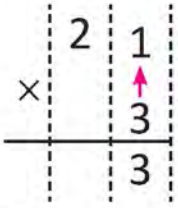


We can multiply 21×3 in this way,

First step: ones place



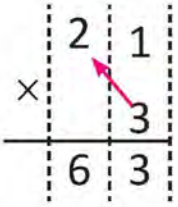
Write according to place value



3×1

Multiply the ones and write in ones column

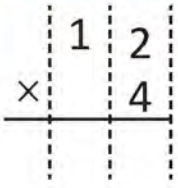
Second step: tens place

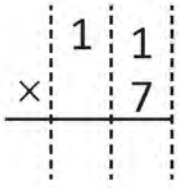


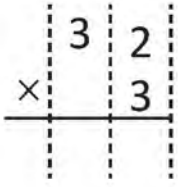
2×3

Multiply the tens and write in tens column

Calculate:





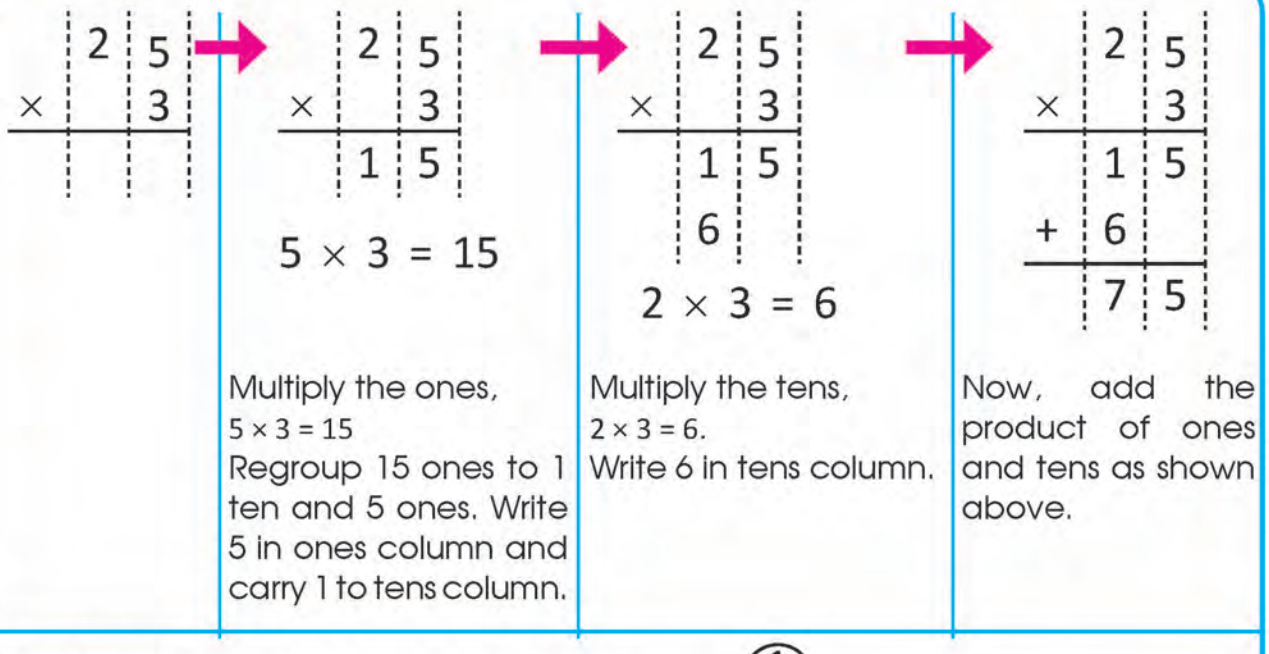


There are 25 bananas in one Kaiyo of Malvok banana. If Vivek bought 3 Kaiyo bananas, how many bananas did he buy?

Number of banana in one Kaiyo = 25

Total number of Kaiyo = 3

Total number of banana = 25 × 3



We can multiply in this way,

$$\begin{array}{r} \overset{1}{}\,2\;5 \\ \times\quad 3 \\ \hline 7\;5 \end{array}$$

Multiply:

(a) $\begin{array}{r} 3\;5 \\ \times\quad 2 \\ \hline \end{array}$

(b) $\begin{array}{r} 4\;6 \\ \times\quad 2 \\ \hline \end{array}$

(c) $\begin{array}{r} 2\;8 \\ \times\quad 3 \\ \hline \end{array}$

(d) $\begin{array}{r} 2\;9 \\ \times\quad 6 \\ \hline \end{array}$

(e) $\begin{array}{r} 4\;2 \\ \times\quad 7 \\ \hline \end{array}$

(f) $\begin{array}{r} 3\;5 \\ \times\quad 3 \\ \hline \end{array}$

(g) $\begin{array}{r} 2\;6 \\ \times\quad 4 \\ \hline \end{array}$

There are 32 oranges in one cartoon box. How many oranges are there in the 4 cartoon boxes of the same type?

32 × 4 + 128	32 × 4 128

Calculate:

1. 73 mangoes were picked from one mango tree. How many mangoes were picked from 3 mango trees at the same rate?

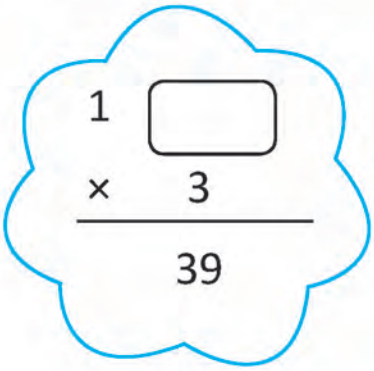
2. If there are 30 eggs in one crate, how many eggs are there in 7 crates?

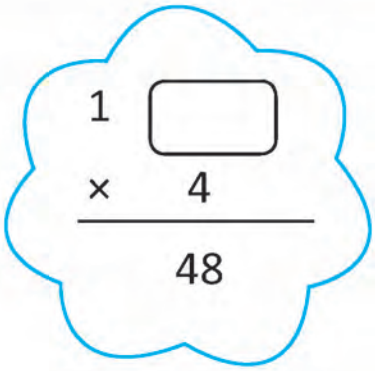
3. There are 2 sections in three classes. If there are 33 students in each section, how many students are there in three classes?

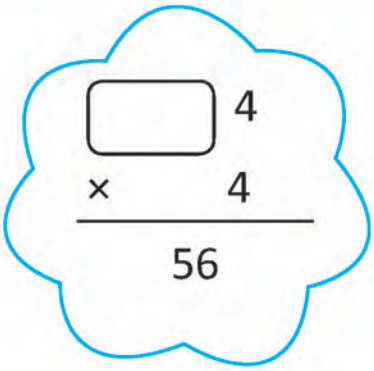
Multiply:

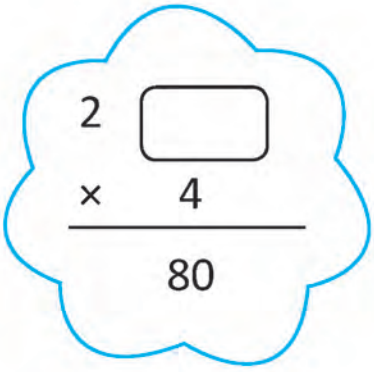
③ 1 9 × 4 7 6	1 Ten 9 One × 4 4 Ten 36 Ones 40 + 36 = 76
② 8 6 × 4 3 4 4	8 Ten 6 Ones × 4 32 Ten 24 Ones 320 + 24 = 344
○ 7 5 × 5	
○ 8 2 × 4	
○ 8 4 × 5	
○ 9 3 × 4	
○ 4 5 × 6	
○ 7 6 × 6	

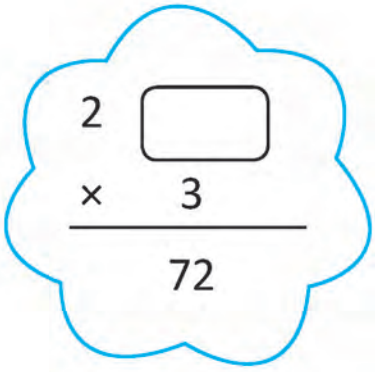
Fill in the box with correct numerals.

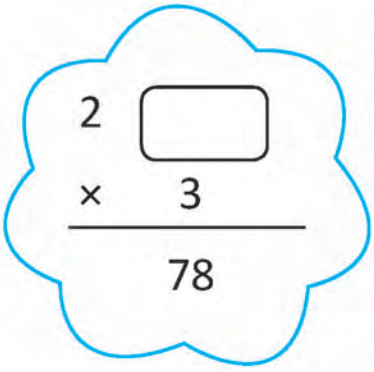


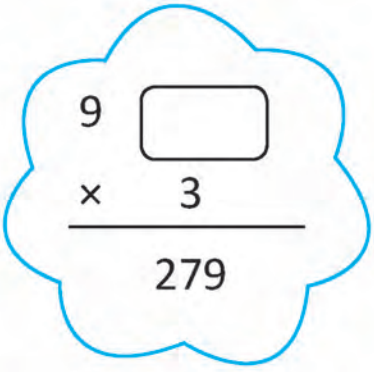


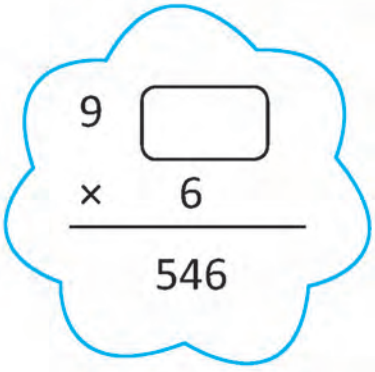


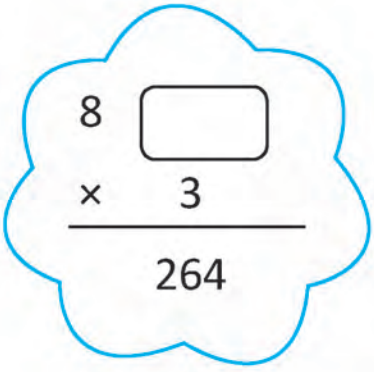


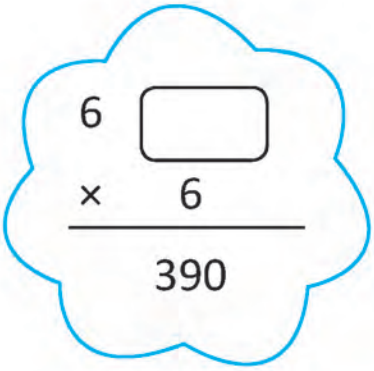


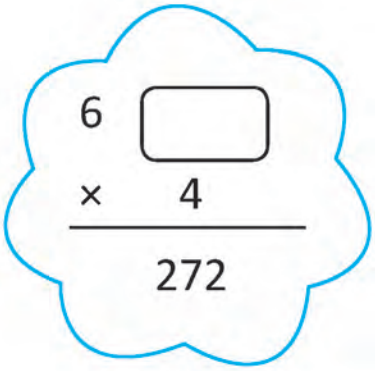


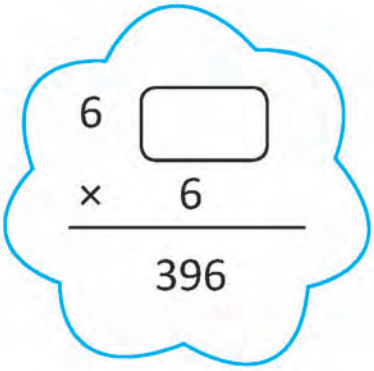




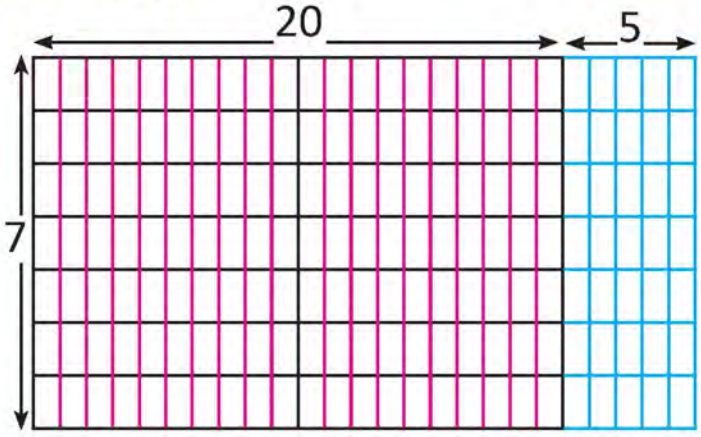








Multiply:



$25 \times 7 = ?$

are 7×25 and 25×7 equal ?

We can write above table in different way, 7×25

$$\begin{array}{r} 25 \\ \times\ 7 \\ \hline 35 \\ +\ 140 \\ \hline 175 \end{array}$$

$$\begin{array}{r} 5 \\ \times\ 7 \\ \hline 35 \end{array}$$

$$\begin{array}{r} 20 \\ \times\ 7 \\ \hline 140 \end{array}$$

$$\begin{array}{r} \boxed{3} \\ 25 \\ \times\ 7 \\ \hline 175 \end{array}$$

$25 \times 7 = 175$

25×7 and 7×25 both give product 175.

Multiply:

$$\begin{array}{r} \square \\ 38 \\ \times\ 6 \\ \hline \end{array}$$

$8 \times 6 = 48$

$30 \times 6 = 180$

228

$$\begin{array}{r} \square \\ 38 \\ \times\ 6 \\ \hline \end{array}$$

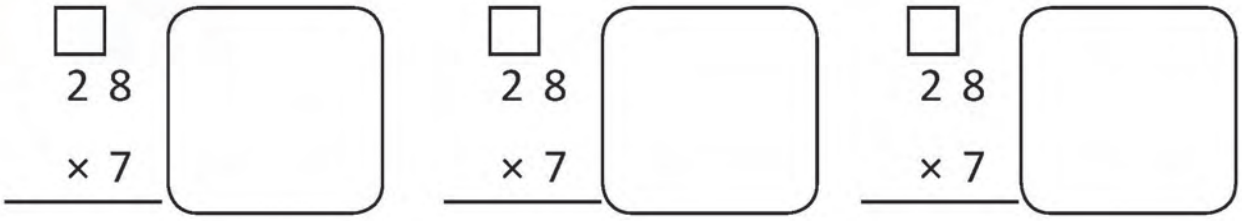
$$\begin{array}{r} \square \\ 38 \\ \times\ 6 \\ \hline \end{array}$$

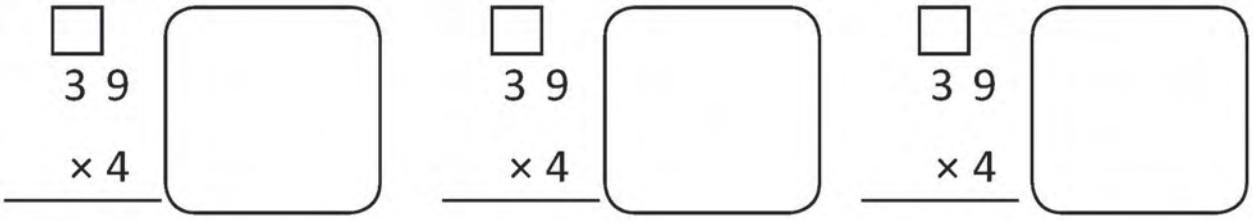
$$\begin{array}{r} \square \\ 67 \\ \times\ 5 \\ \hline \end{array}$$

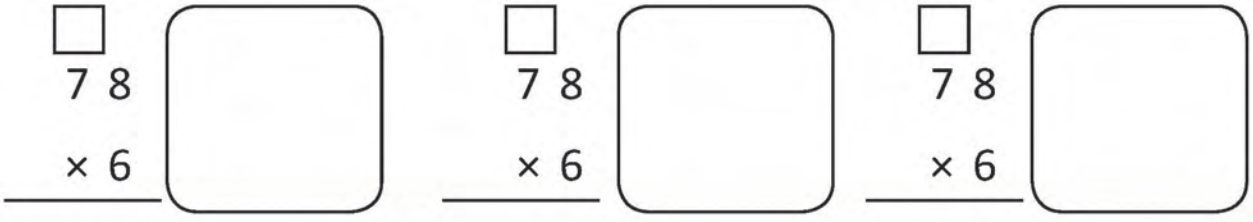
$$\begin{array}{r} \square \\ 67 \\ \times\ 5 \\ \hline \end{array}$$

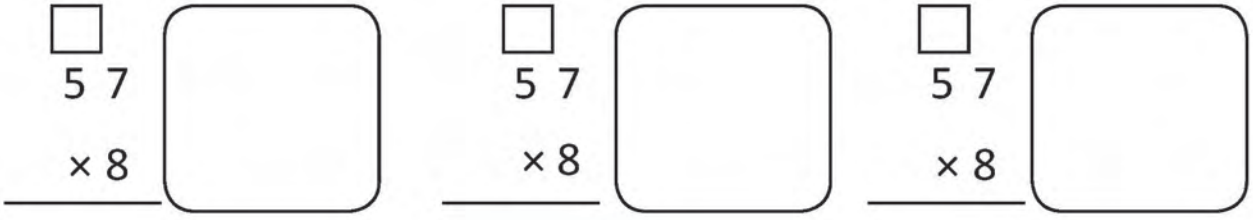
$$\begin{array}{r} \square \\ 67 \\ \times\ 5 \\ \hline \end{array}$$

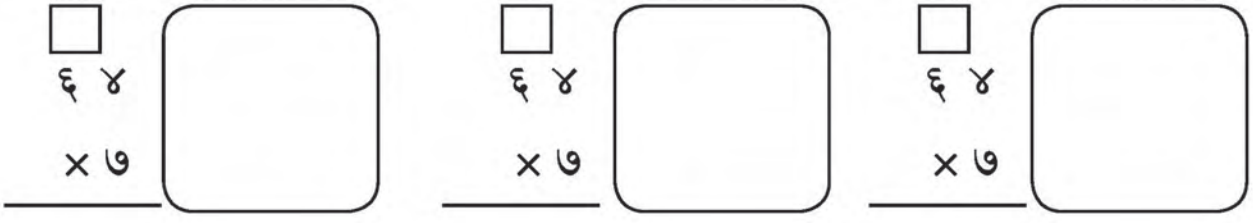
Multiply:







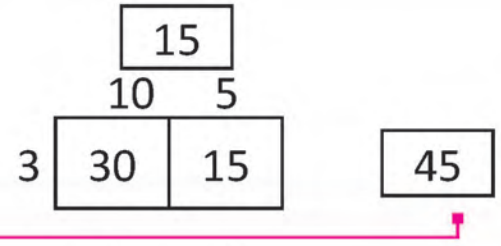




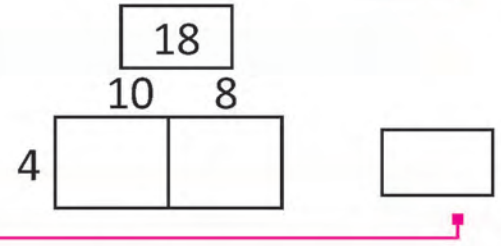
Multiplication of two digit number by one digit number

Multiply:

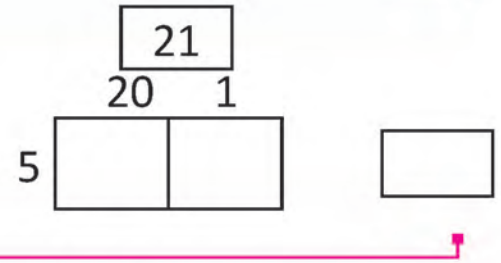
15 × 3



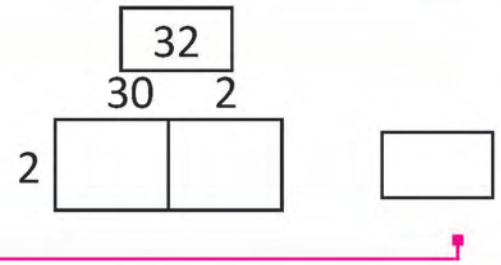
18* × 4



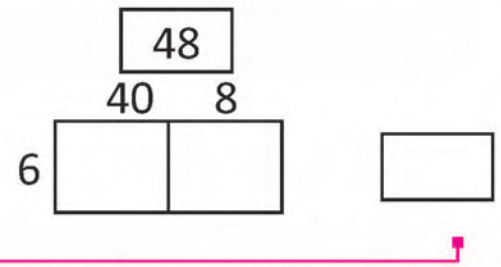
21 × 5



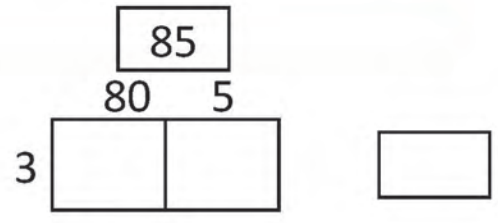
32 × 2



48 × 6



85 × 3



Multiplication of two digit number by one digit number.

There are 40 books of the same type in a box. How many books are there in 8 such boxes?

40 + 40 + 40 + ... + 40 (8 times) = 320

It takes more time.

40 x 8. It takes less time.

First multiply the number without the zero.

Put the zero behind the product.

$4 \times 8 = 32$

$40 \times 8 = 320$

There are 320 books.

Multiply:

$20 \times 2 =$		$40 \times 6 =$	
$20 \times 4 =$		$50 \times 6 =$	
$30 \times 1 =$		$80 \times 7 =$	
$30 \times 7 =$		$90 \times 8 =$	

Multiplication of two digit number by two digit number

Sita has 30 packets of chocolates. If one packet has 20 chocolates then how many chocolates does she has in total?

20 × 30 = ? Let's think! how to do?

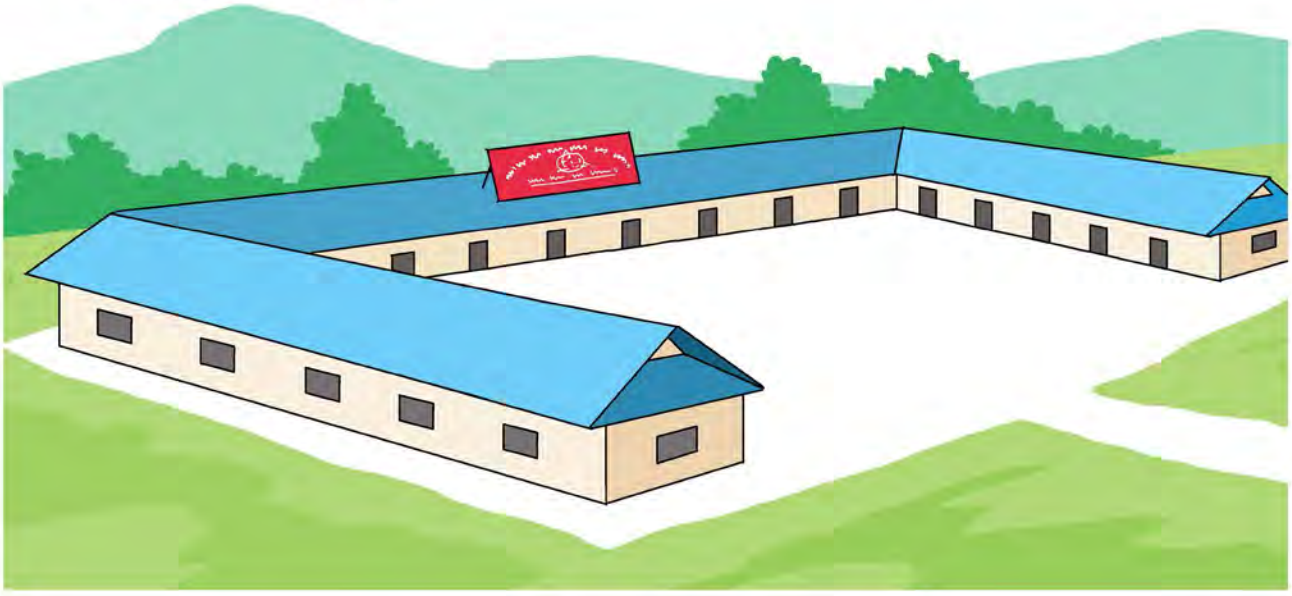
= 2 x 10 x 3 x 10
= 2 x 3 x 10 x 10
= 6 x 10 x 10
= 60 x 10
= 600

In 20 × 30, Multiply 2 and 3
2 × 3 = 6 and put zeros behind 6
20 × 30 = 600

Calculate:

10 x 20 =	30 x 20 =
30 x 30 =	30 x 40 =
40 x 20 =	40 x 50 =
60 x 50 =	60 x 40 =
30 x 80 =	60 x 70 =
70 x 80 =	50 x 90 =
90 x 60 =	70 x 90 =
90 x 80 =	90 x 90 =

There are 16 rooms in Pravin's school. If 24 students were placed in each room in the first quarterly examination, how many students appeared the examination?



First, write mathematical sentence $\boxed{24} \times \boxed{16}$

You can take help of place value table.

24×16

$24 \times 6 = \boxed{144}$

$24 \times 10 = \boxed{240}$

Add 144 and 240.

	H	T	O
		[2]	
		2	4
×		1	6
	1	4	4
+	2	4	0
	3	8	4

$\boxed{24 \times 16 = 384}$

If the banana farm in Binu's garden has produced 38 dozen bananas, how many bananas are there?

Here,

Total bananas = 38 dozen

1 dozen = 12

Total number of banana = 38 × 12

= 456 bananas

$$\begin{array}{r} {\scriptstyle 1} \\ 38 \\ \times\ 12 \\ \hline 76 \\ +\ 380 \\ \hline 456 \end{array}$$

Multiply:

(a)	(b)	(c)	(d)
$\begin{array}{r} 21 \\ \times\ 13 \\ \hline \end{array}$	$\begin{array}{r} 23 \\ \times\ 12 \\ \hline \end{array}$	$\begin{array}{r} 43 \\ \times\ 11 \\ \hline \end{array}$	$\begin{array}{r} 41 \\ \times\ 25 \\ \hline \end{array}$

(e)	(f)	(g)	(h)
$\begin{array}{r} 27 \\ \times\ 10 \\ \hline \end{array}$	$\begin{array}{r} 35 \\ \times\ 11 \\ \hline \end{array}$	$\begin{array}{r} 44 \\ \times\ 22 \\ \hline \end{array}$	$\begin{array}{r} 41 \\ \times\ 35 \\ \hline \end{array}$

Multiply:

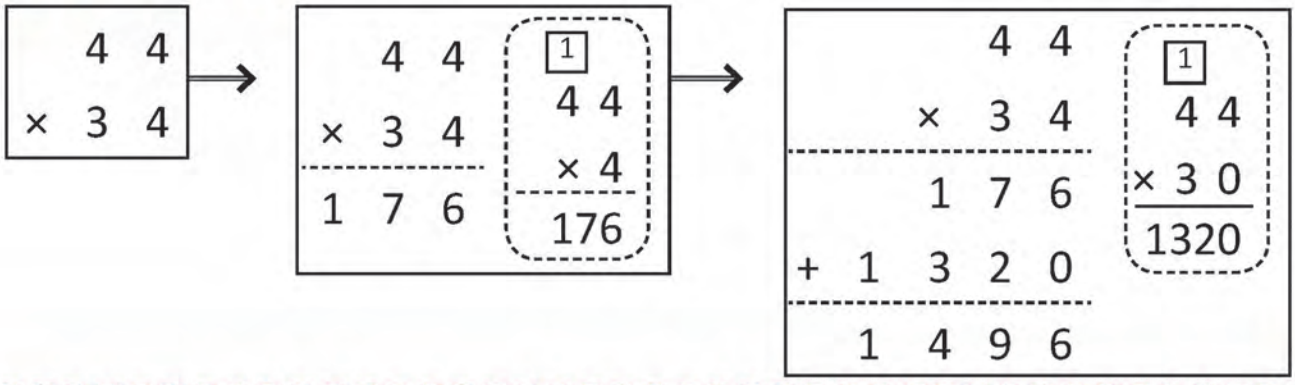
23 × 13 = ☐

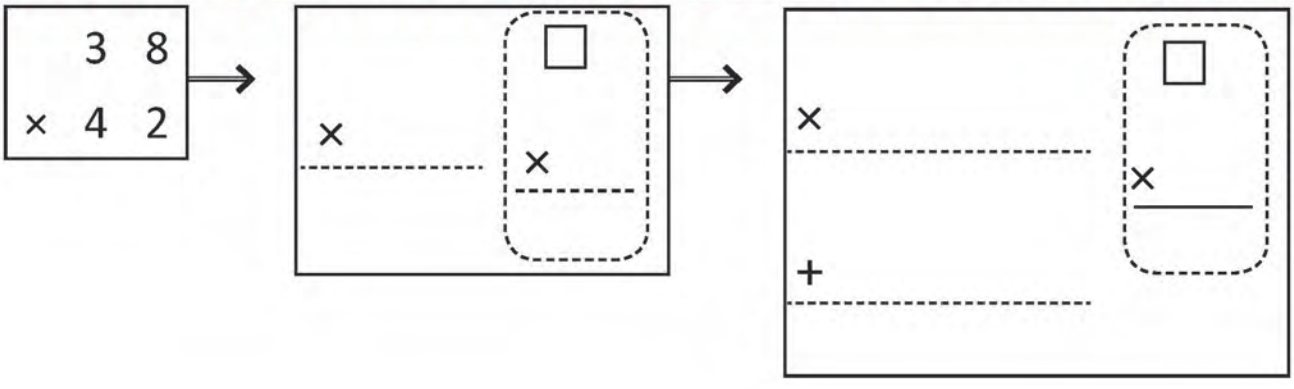
	H	T	O
×			

46 × 16 = ☐

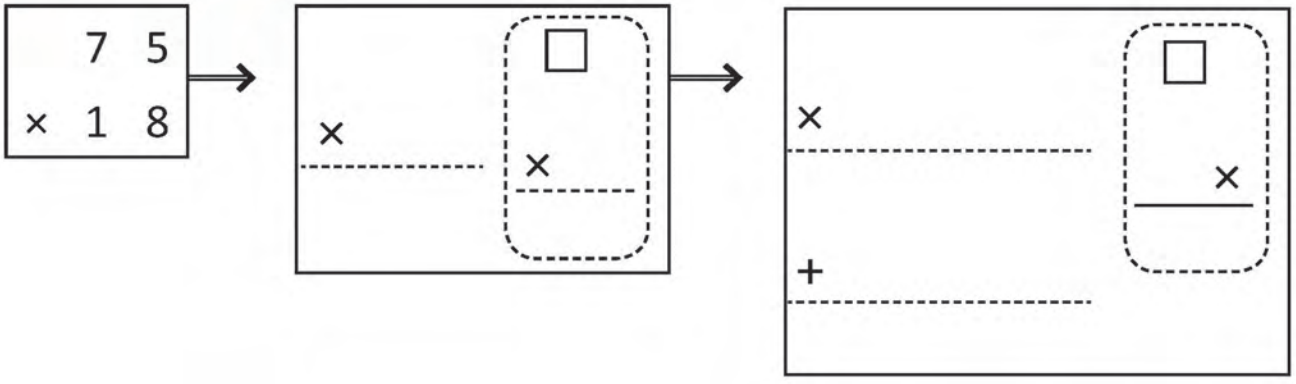
	H	T	O
×			

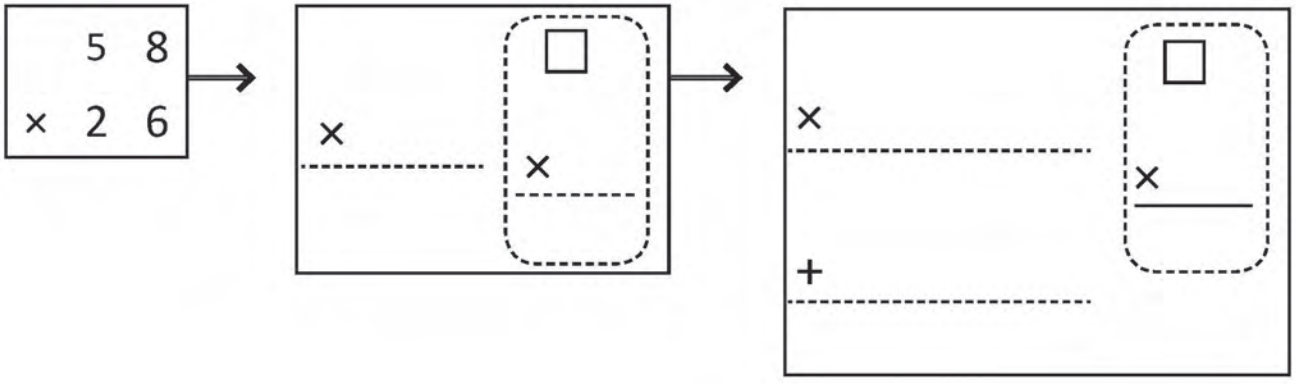
Multiply:

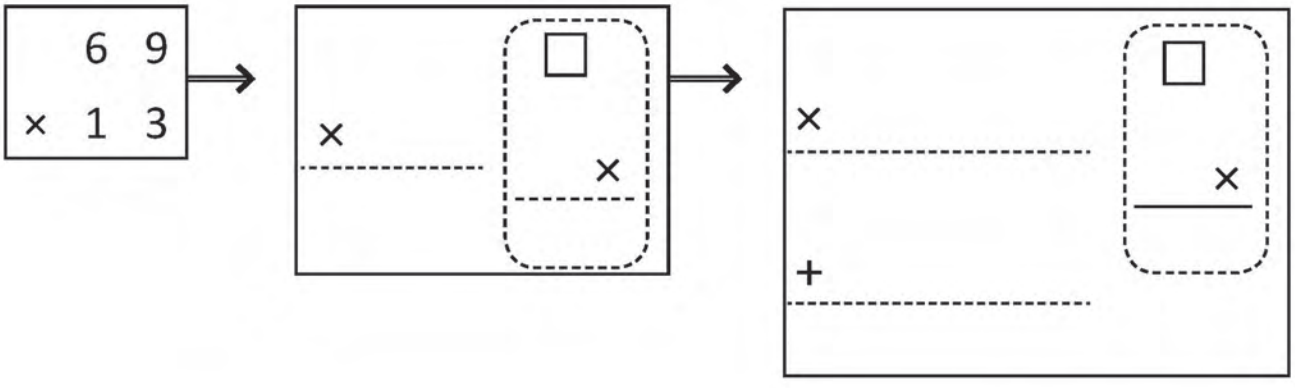




Multiply:

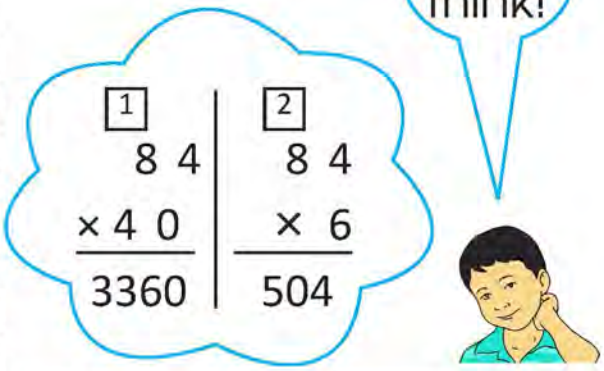






Multiply:

	Th	H	T	O
			8	4
×			4	6
		5	0	4
+	3	3	6	0
	3	8	6	4



84 x 46 = 3864

	Th	H	T	O
			8	5
×			2	4
+				

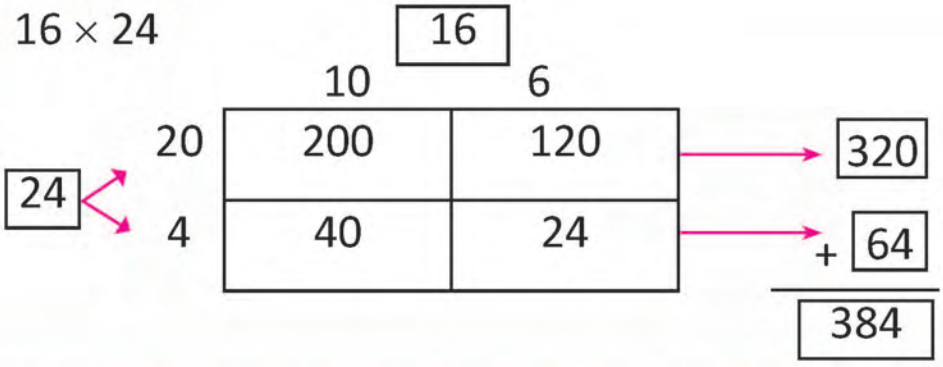
	Th	H	T	O
			9	6
×			3	6
+				

	Th	H	T	O
			7	8
×			2	3
+				

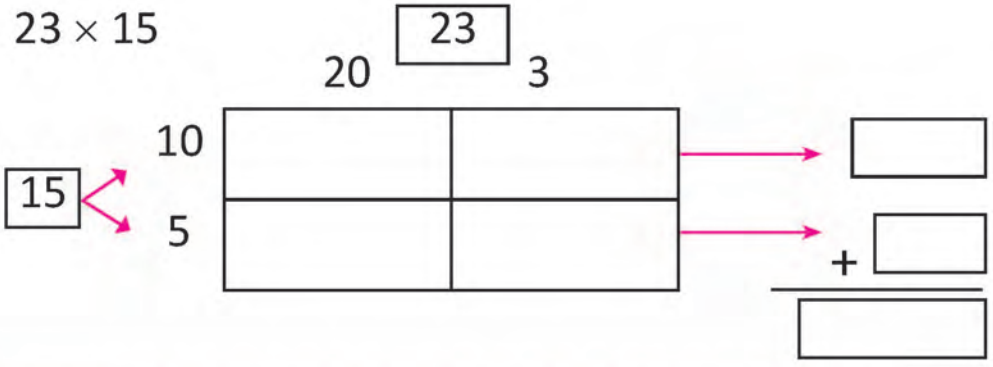
	Th	H	T	O
			8	7
×			3	4
+				

Multiply:

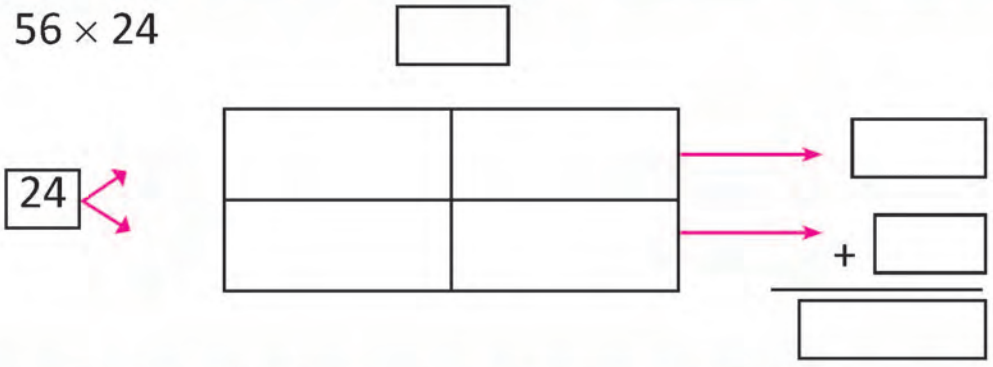
16×24



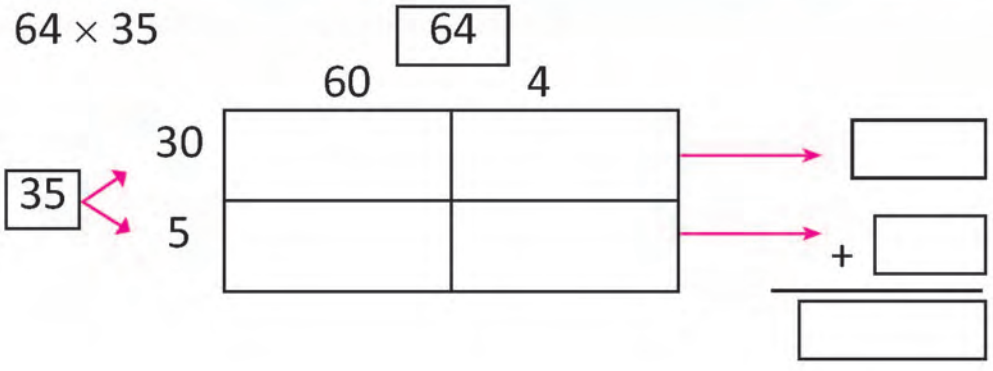
23×15



56×24



64×35



A pair of shoes costs Rs 432. What is the cost of 4 pairs of such shoes?

Here, the cost of one pair shoes = Rs. 432

The cost of 4 pairs shoes = Rs. 432 × 4

= Rs. 1728

$$\begin{array}{r} {\scriptstyle (1)}\ 4\ 3\ 2 \\ \times \quad\ 4 \\ \hline 1\ 7\ 2\ 8 \end{array}$$

Multiply:

(a)	(b)	(c)	(d)
$\begin{array}{r} 2\ 3\ 4 \\ \times \quad 2 \\ \hline \end{array}$	$\begin{array}{r} 3\ 1\ 2 \\ \times \quad 3 \\ \hline \end{array}$	$\begin{array}{r} 3\ 8\ 2 \\ \times \quad 4 \\ \hline \end{array}$	$\begin{array}{r} 5\ 6\ 1 \\ \times \quad 5 \\ \hline \end{array}$

Bipana bought a Nepali dictionary. If that dictionary has 348 pages, how many pages are there in six such dictionaries.

Here, The total number of pages in a book = 348

Total number of dictionary = 6

Total pages of 6 dictionary = pages of a dictionary × total number of books

= 348 × 6

= Rs. 2088

$$\begin{array}{r} {\scriptstyle (2)(4)} \\ 3\ 4\ 8 \\ \times \quad\ 6 \\ \hline 2\ 0\ 8\ 8 \end{array}$$

Multiply:

(a)	(b)	(c)	(d)
$\begin{array}{r} 4\ 7\ 2 \\ \times \quad 7 \\ \hline \end{array}$	$\begin{array}{r} 3\ 7\ 5 \\ \times \quad 6 \\ \hline \end{array}$	$\begin{array}{r} 3\ 3\ 4 \\ \times \quad 3 \\ \hline \end{array}$	$\begin{array}{r} 3\ 3\ 6 \\ \times \quad 3 \\ \hline \end{array}$

One dozen pencils means 12 pieces of pencils. How many pencils are there in 12 dozens?

Here, mathematical sentence
$12 \times 12 = \square$

12 dozen = 1 gross

×		1	2
		1	2
		2	4
+	1	2	0
	1	4	4

Total number of pencils = 144

Solve the given problems:

1. There are 17 boxes of toys in one shop. If there are 17 toys in each box, how many toys are there?

..... × ..... =

×			
+			

2. There are 30 cabins in a train. Each cabin has 40 people. How many people are there on the train?

..... × ..... =

×			
+			

3. There are 15 boxes of sweets in a sweet shop. Each box contains 18 packets of sweets. How many packets of sweets are there altogether?

..... × ..... =

×			
+			

Observe the table given below and solve the given questions:

S.N.	Goods name	Cost (in Rs.)
1	Egg per pieces	15
2	Milk per litre	90
3	Banana per dozen	90
4	Bread per pound	75
5	Juice per bottel	70

1. What is the cost of 4 eggs and 1 litre of milk?

Cost of 4 eggs = Rs. 15 x 4 = Rs. 60
Cost of 1 litre milk = Rs. 90

Now, Rs. 60 + Rs. 90 = Rs. 150

2. What is the cost of 1 dozen of banana and 2 bottles of juice?

3. What is the cost of 1 pound bread and 5 eggs?

Discuss:

How can we calculate 341 × 24? Let's think.

We have already learned, the multiplication of two digit number by two digit number.

Yes. For example 21 × 14

$$21 \times 14 \begin{cases} 21 \times 4 = 84 \\ 21 \times 10 = 210 \end{cases}$$

Total 294

I think we can follow same process for 341 × 24

You are absolutely right!

We can write 24 = 20 + 4

$$341 \times 24 \begin{cases} 341 \times 2 \\ 341 \times 20 \end{cases}$$

We know that how to calculate 341 × 4.

To find the product of 341 × 20, multiply 341 by 2 and put 0 behind the product.

Yes.

431 × 4 = 1364

341 × 20 = 6820

Total = 8184

We can calculate vertically as well.

Calculate vertically 341 × 24.

$$\begin{array}{r} 341 \\ \times\ 24 \\ \hline \end{array}$$

First phase

$$\begin{array}{r} 341 \\ \times\ 24 \\ \hline 1364 \end{array}$$

Second phase

$$\begin{array}{r} 341 \\ \times\ 24 \\ \hline 1364 \\ 6820 \\ \hline \end{array}$$

Third phase

$$\begin{array}{rl} 341 & \\ \times\ 24 & \\ \hline 1364 & \leftarrow 341 \times 4 \\ +\ 6820 & \leftarrow 341 \times 20 \\ \hline 8184 & \end{array}$$

Calculate vertically

$$\begin{array}{r} 214 \\ \times\ 31 \\ \hline \end{array}$$

$$\begin{array}{r} 183 \\ \times\ 47 \\ \hline \end{array}$$

$$\begin{array}{r} 769 \\ \times\ 12 \\ \hline \end{array}$$

$$\begin{array}{r} 225 \\ \times\ 43 \\ \hline \end{array}$$

$$\begin{array}{r} 354 \\ \times\ 28 \\ \hline \end{array}$$

$$\begin{array}{r} 469 \\ \times\ 21 \\ \hline \end{array}$$

$$\begin{array}{r} 519 \\ \times\ 18 \\ \hline \end{array}$$

$$\begin{array}{r} 168 \\ 1\quad 56 \\ \hline \end{array}$$

Multiplication of three digit number by two digit number

Study:

			2	8	9
×				3	6
		1	7	3	4
+		8	6	7	0
	1	0	4	0	4

$$\begin{array}{r} 289 \\ \times\ 6 \\ \hline 1734 \end{array} \qquad \begin{array}{r} 289 \\ \times\ 30 \\ \hline 8670 \end{array}$$

$289 \times 36 = 10404$

Multiply:

			3	6	8
×				3	2
+					

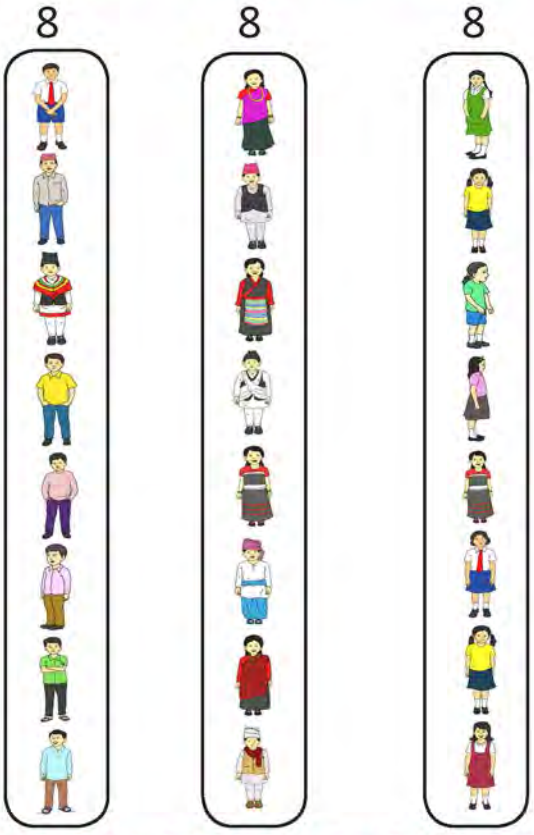
			4	5	9
×				4	2
+					

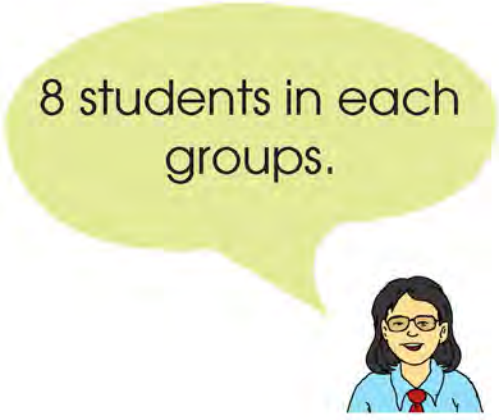
			6	9	4
×				5	4
+					

			5	9	1
×				6	9
+					

Division

There were 24 students studying in class three in a school. The teacher divided the students into three equal groups for extracurricular activities. How many students were in each group?





$8 \times 3 = 24$

$24 \div 3 = 8$

Devide:

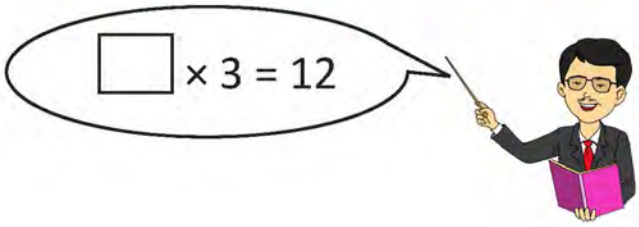
$20 \div 2$	=		$18 \div 2$	=	
$30 \div 3$	=		$21 \div 3$	=	
$40 \div 4$	=		$32 \div 4$	=	
$50 \div 5$	=		$45 \div 5$	=	
$60 \div 6$	=		$54 \div 6$	=	

The number of apples divided equally among the three students is mentioned below. How many apples does a student get in each condition? Find it.

1. If there is 12 apples,

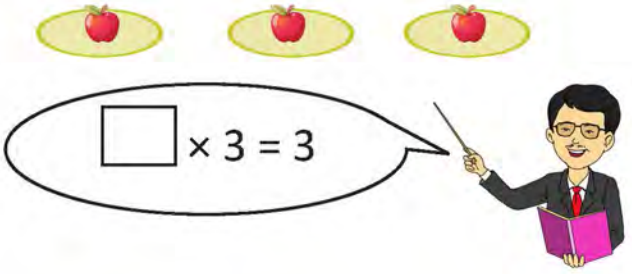
Bindu Hari Sita

$12 \div 3 = \square$



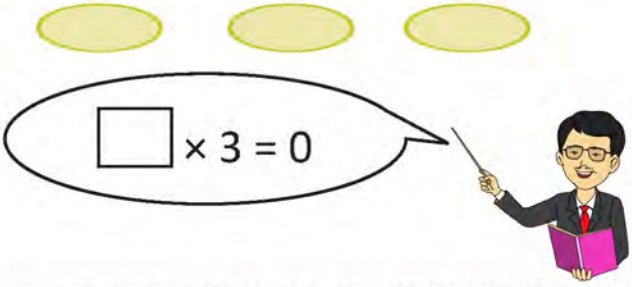
2. If there is 3 apples,

$3 \div 3 = \square$



3. If there is no apples,

$0 \div 3 = \square$



Calculate

$2 \div 2$	$= \square$	$7 \div 7$	$= \square$
$0 \div 5$	$= \square$	$6 \div 6$	$= \square$
$0 \div 9$	$= \square$	$0 \div 4$	$= \square$

Seven oranges are distributed among the students. Each student gets one orange. How many students can be distributed?

$7 \div 1 = \square$

$1 \times \square = 7$

Calculate:

$2 \div 1 = \square$	$6 \div 1 = \square$
$9 \div 1 = \square$	$3 \div 1 = \square$
$4 \div 4 = \square$	$0 \div 2 = \square$
$5 \div 1 = \square$	$1 \div 1 = \square$
$0 \div 6 = \square$	$0 \div 1 = \square$
$8 \div 1 = \square$	$9 \div 9 = \square$

÷ Calculate as given below:

1. 12 ÷ 4

12 - 4 = 8 (First time)

8 - 4 = 4 (Second time)

4 - 4 = 0 (Third time)

12 ÷ 4 = 3

We can subtract 4 from 12 three times.

2. 18 ÷ 3

3. 16 ÷ 4

4. 20 ÷ 4

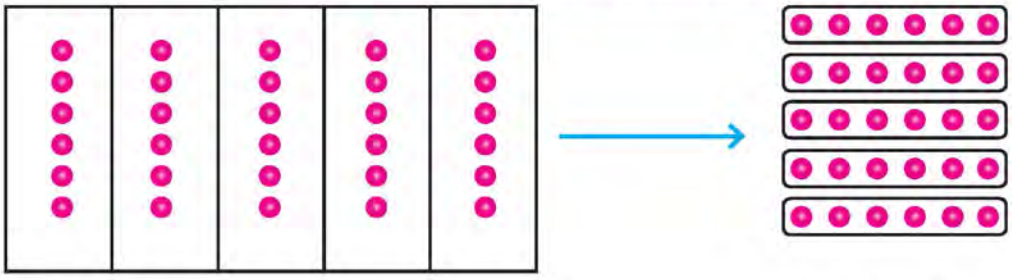
5. 25 ÷ 5

6. 30 ÷ 6

Relation between multiplication and division

Study:

What is the relation between multiplication and division?



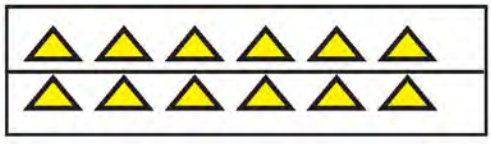
$6 \times 5 = 30$

$30 \div 5 = 6$

Multiplication and division are reverse process.

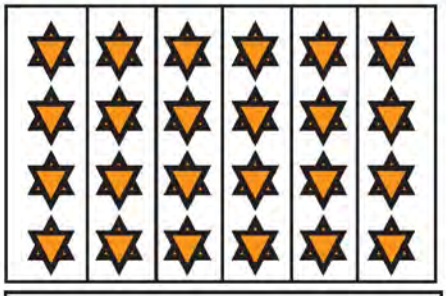
Write the multiplication and division sentences for the pictures below.

1.

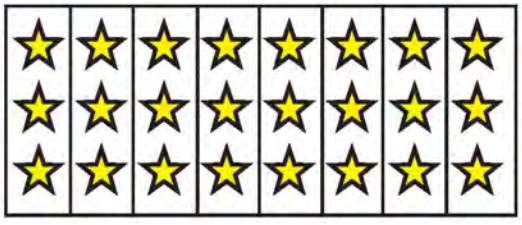


६ × २ = १२
१२ ÷ २ = ६

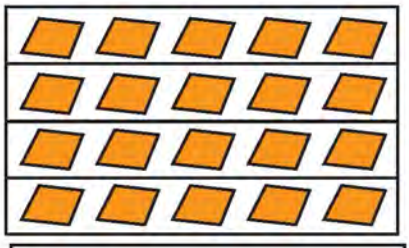
2.



3.



4.



Calculate as given below:

1. $50 \div 5$

$5 \times 10 = 50$
$50 \div 5 = 10$

2. $21 \div 7$

3. $49 \div 7$

4. $48 \div 8$

5. $60 \div 6$

6. $64 \div 8$

7. $70 \div 10$

8. $90 \div 9$

Multiplication and Division

Calculate as given below:

A number which divides another number is called divisor.

The number to be divided is called the dividend.

The number of times it divides is called the quotient.

1. $8 \times 4 = 32$

   $32 \div 4 = 8$

   Divide = 32

   Divisor = 4

   Quotient = 8

2. 8×7 = 56

   56 $\div 7$ = ☐

   Divide = ☐

   Divisor = ☐

   Quotient = ☐

3. 9×5 = ☐

   ☐ $\div 5$ = ☐

   Divide = ☐

   Divisor = ☐

   Quotient = ☐

4. 10×4 = ☐

   ☐ $\div 4$ = ☐

   Divide = ☐

   Divisor = ☐

   Quotient = ☐

5. 7×5 = ☐

   ☐ $\div 5$ = ☐

   Divide = ☐

   Divisor = ☐

   Quotient = ☐

Division with remainder

There are 60 oranges in a basket. If we put 7 oranges in each bag, then how many bags do we need? How many oranges are left in the basket?

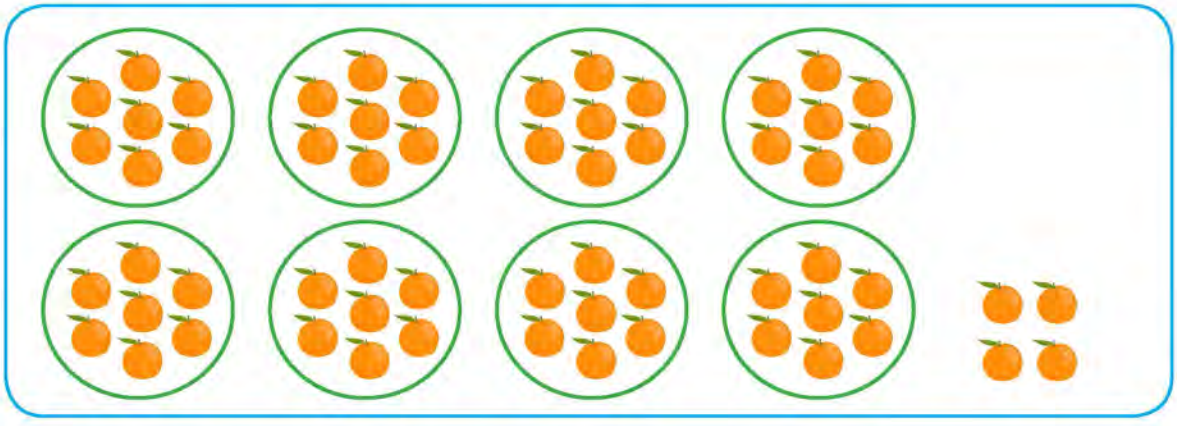
$60 \div 7 = \boxed{?}$

We know that, $7 \times 8 = 56$ and $7 \times 9 = 63$

Here, If we put 7 oranges in each bag, then 56 oranges can be put in 8 bags and 4 oranges are left in the basket. 3 oranges are less to put in another bag.

Quotient is 8 and 4 is remainder.

$60 = 7 \times 8 + 4$



56 oranges are in 8 bags.

60 - 56 = 4

4 oranges are left.

There are 14 pencils in a classroom. Sita and Hari were discussing to make groups of 4 pencils in each group.

If I made 2 sets of 4 pencils, 6 pencils were left.

If I made 3 sets of 4 pencils, 2 pencils were left.

Sita, you are correct. Remainder is less than divisor. Let's observe the table.

12 ÷ 4 = 3	Reminder 0
13 ÷ 4 = 3	Reminder 1
14 ÷ 4 = 3	Reminder 2
15 ÷ 4 = 3	Reminder 3
16 ÷ 4 = 4	Reminder 0
17 ÷ 4 = 4	Reminder 1
18 ÷ 4 = 4	Reminder 2
19 ÷ 4 = 4	Reminder 3
20 ÷ 4 = 5	Reminder 0

In mathematical sentence,

$14 \div 4$

Divide

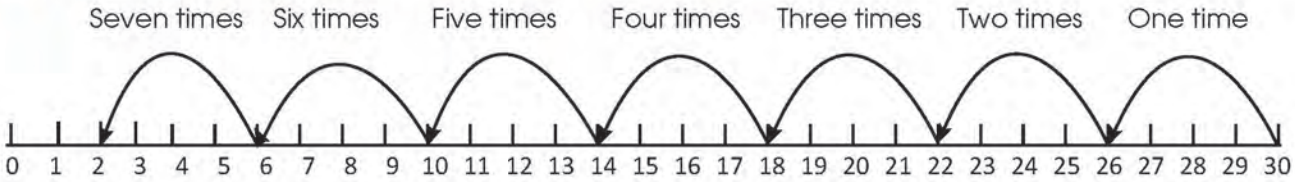
Divisor

Remainder is always less than divisor.

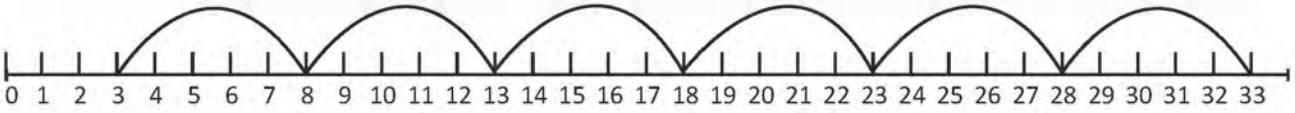
Tick (√) for the correct statement.

33 ÷ 6 = 4	Reminder 9	☐
33 ÷ 6 = 5	Reminder 3	☐

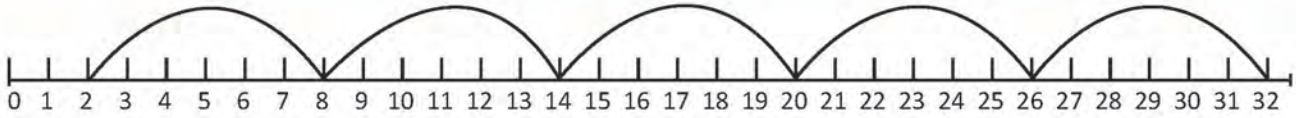
Divide and find the remainder.



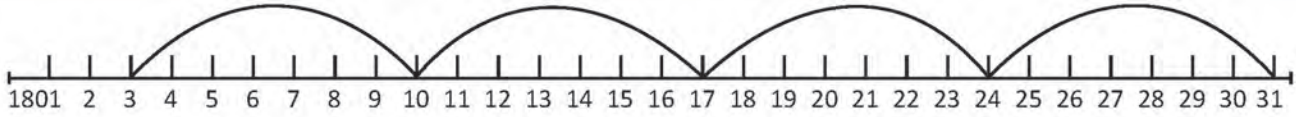
1. $30 \div 4 =$ 7 Reminder = 2



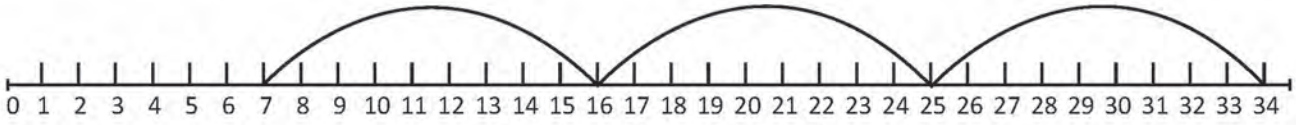
2. $33 \div 5 =$ ☐ Reminder = ☐



3. $32 \div 6 =$ ☐ Reminder = ☐



4. $31 \div 7 =$ ☐ Reminder = ☐



5. $34 \div 9 =$ ☐ Reminder = ☐

Calculate as given below:

1. $45 \div 6$

$6 \times 7 = 42$ (Is less than 45.)

$6 \times 8 = 48$ (Is greater than 45.)

$45 = 42 + 3$

$= 6 \times 7 + 3$

Reminder = $\boxed{3}$

2. $27 \div 4$

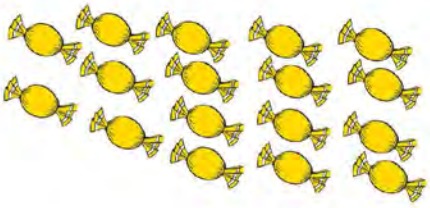
3. $49 \div 5$

4. $64 \div 9$

5. $73 \div 8$

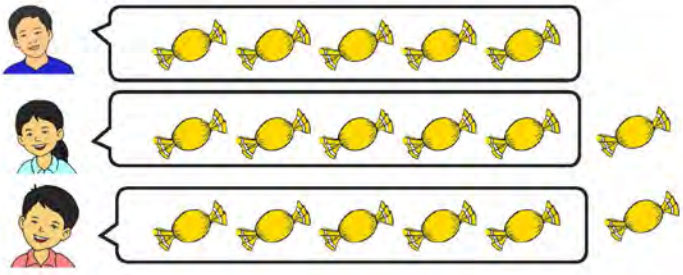
6. $79 \div 10$

17 chocolates are equally shared with 3 person. How many chocolates does each person get? How many chocolates are left?



Mathematical sentence: ☐ ÷ ☐ = ☐ Reminder ☐

You can calculate using materials.



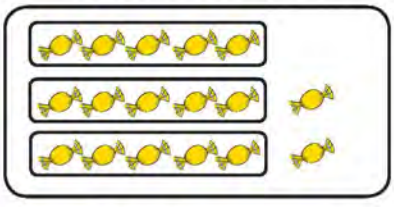
We can write division process in mathematical sentences as follows.

$17 \div 3 = 5$ Reminder 2

$5 \times 3 + 2 = 17$

Number of chocolates got one person	Total number of people	Remi-nder	Total number of chocolates

Total number of chocolates



5×3 $+ 2$

Calculate:

$35 \div 5 =$ ☐ Reminder ☐	$40 \div 6 =$ ☐ Reminder ☐
$15 \div 7 =$ ☐ Reminder ☐	$79 \div 8 =$ ☐ Reminder ☐
$26 \div 3 =$ ☐ Reminder ☐	$82 \div 9 =$ ☐ Reminder ☐

Study:

1. Write $17 \div 3$ as $3\overline{)17}$
2. What number multiply by 3 if less than 17 and closer to 17?
3. Subtract the product of 3 and 5 from 17.

②

$$\begin{array}{r} 5 \\ 3\overline{)17} \\ -15 \\ \hline \end{array}$$

③

$$\begin{array}{r} 5 \\ 3\overline{)17} \\ -15 \\ \hline 2 \end{array}$$

While $17 \div 3$, 5 quotients and 2 remainder

Solve the problems.

$32 \div 5$

$$\begin{array}{r} \square \\ 5\overline{)32} \\ \square \end{array}$$

Quotient ☐ Reminder ☐

$25 \div 4$

$$\begin{array}{r} \square \\ 4\overline{)25} \\ \square \end{array}$$

Quotient ☐ Reminder ☐

$39 \div 7$

$$\begin{array}{r} \square \\ 7\overline{)39} \\ \square \end{array}$$

Quotient ☐ Reminder ☐

In mathematical language, divisor, dividend quotient and remainder are used in division process.

Devide, Divisor, Quatiant, Reminder

$17 \div 3 = 5 \quad 2$

$40 \div 8 = 5$

Devide, Divisor, Quotiant, Reminder

$43 \div 8 = 5$ Reminder 3

If dividend is exactly divided by divisor, there is no remainder.

Division with remainder

What is the value of 65 divide by 8?

$65 \div 8 = 8 \times 8 + 1$

$$\begin{array}{r} 8 \\ 8\overline{)\,65} \\ -\,64 \\ \hline 1 \end{array}$$

1 Reminder

Quatiant

Divisor) Divide

Reminder

You can use multiplications and subtraction in division.

Divide:

1. $59 \div 7$

2. $62 \div 9$

3. $65 \div 7$

4. $75 \div 8$

Division of two digit number by 1 digit number without remainder

Gourav has Rs. 96. He divides it to his 3 friends equally. How much does each friend get? How much left with him?

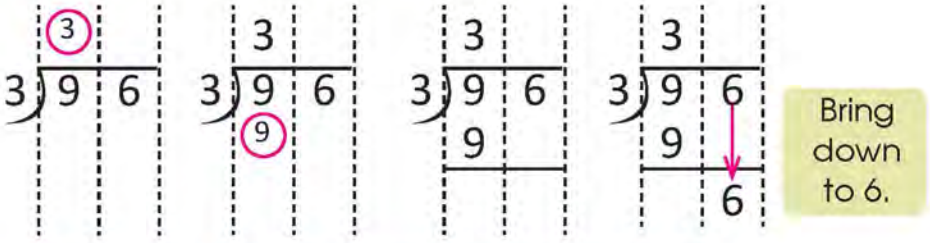
Let's start from tens place.

$3\overline{)96}$

Tens place

① 9 divided by 3,

$9 \div 3 = 3$

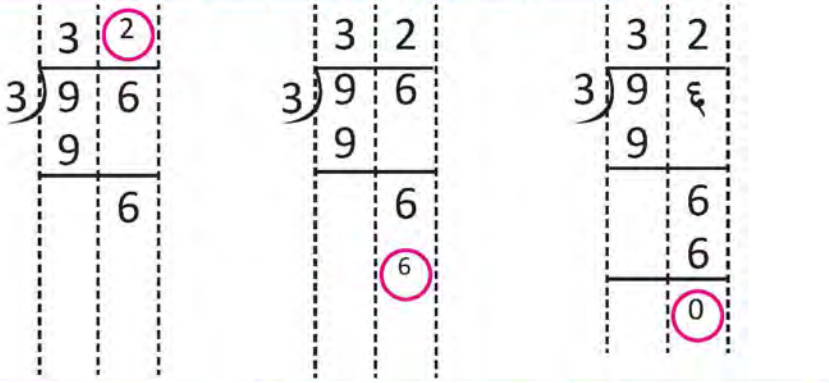


Divide | Multiplying $3 \times 3 = 9$ | Subtracting $9 - 9 = 0$

Ones place

② 6 divided by 3,

$6 \div 3 = 2$



Divide | Multiplying $3 \times 2 = 6$ | Subtracting $6 - 6 = 0$

Divide:

1. $3\overline{)40}$

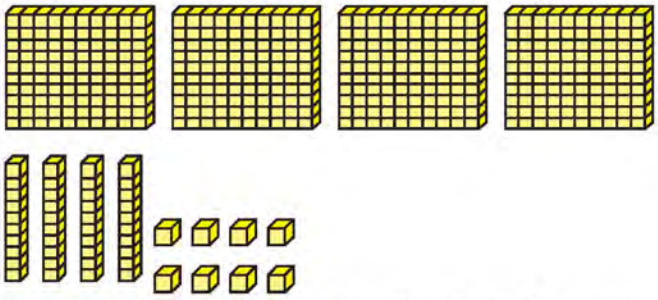
2. $5\overline{)60}$

3. $6\overline{)90}$

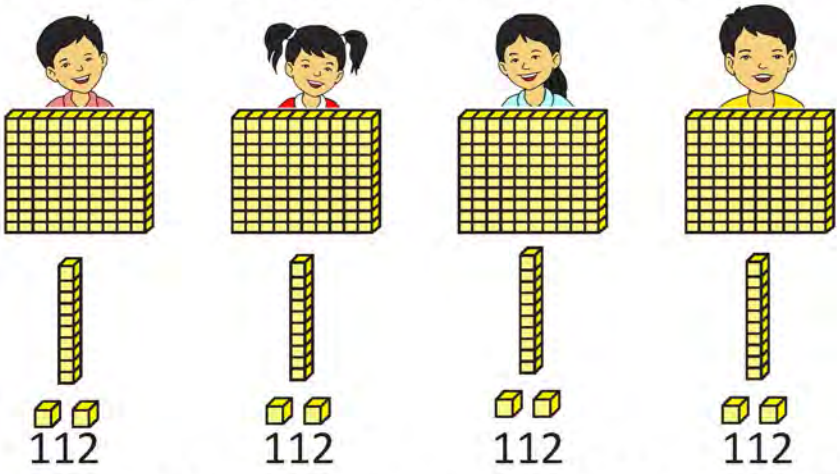
Division of 3 digit number by 1 digit number without remainder

A charity distributes Rs. 448 to 4 people equally to the purchase of stationery. How much money does each get?

In mathematical sentence, 448 ÷ 4



a. Dividing equally to 4 people.



b. divide vertically

4) 448 (100+10+2 = 112

- 400
  48
- 40
  8
- 8
  0

We can divide in this way also

```
      1 1 2
   ------
4 ) 4 4 8
  - 4
  -----
      4
    - 4
    -----
        8
      - 8
      ---
        0
```

Divide

1. $6\overline{)486}$

2. $4\overline{)944}$

3. $7\overline{)560}$

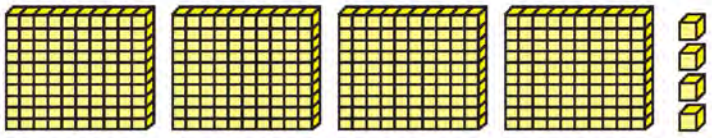
4. $8\overline{)640}$

5. $6\overline{)600}$

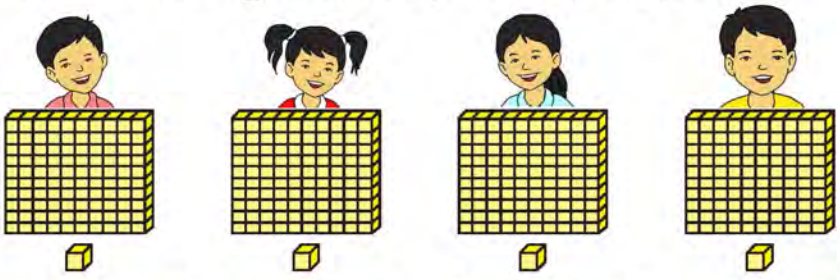
6. $7\overline{)700}$

Bimala distributed Rs. 404 to 4 people equally. How much money does each get?

In mathematically sentence, 404 ÷ 4



a. Dividing equally to 4 people



each person get = Rs. 100 and 1 = 100 + 1 = 101

Dividing in vertical form

b. divide vertically

$$\begin{array}{r} 4\overline{)404} \\ -400 \\ \hline 4 \\ -4 \\ \hline 0 \end{array}$$

(100 + 1 = 101

(c) We can divide in this way also

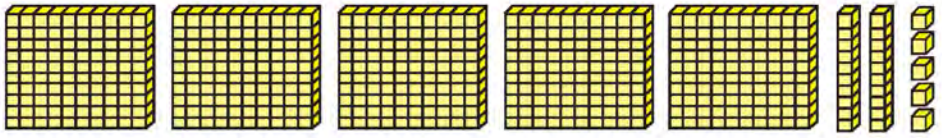
$$\begin{array}{r} 101 \\ 4\overline{)404} \\ -4\downarrow \\ \hline 0 \\ -0\downarrow \\ \hline 4 \\ -4 \\ \hline 0 \end{array}$$

Divide:

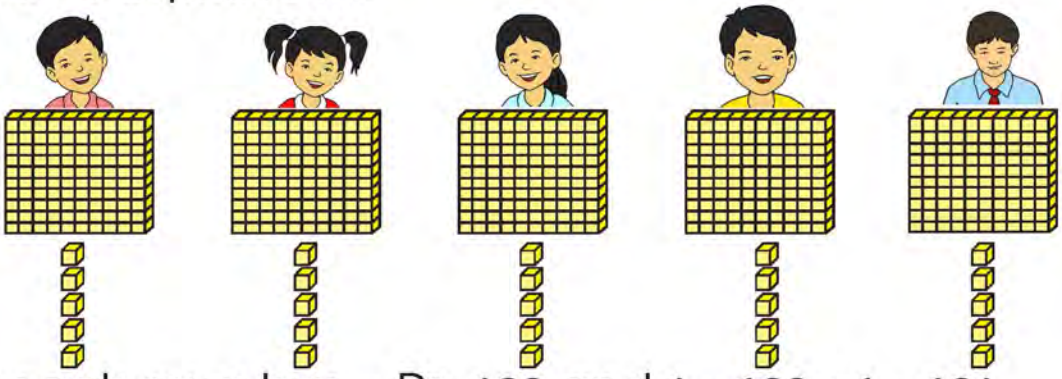
(a) $2\overline{)80}$ (b) $3\overline{)900}$ (c) $4\overline{)800}$

A farmer has planted 525 plants of cauliflowers in 5 rows in his field. How many plants are planted in a row?

In mathematical sentence, 525 ÷ 5



a. 5 Equal rows



each rows has = Rs. 100 and 1 = 100 + 1 = 101

b. divide vertically

$$
\begin{array}{r}
5\overline{)\,525} \\
-\,500 \\
\hline
25 \\
-\,25 \\
\hline
0
\end{array}
\quad (100 + 5 = 105
$$

(c) We can divide in this way also

$$
\begin{array}{r}
1\ 0\ 5 \\
5\overline{)\,5\ 2\ 5} \\
-\ 5 \\
\hline
2\ 5 \\
-\ 2\ 5 \\
\hline
0
\end{array}
$$

Divide:

(a) 618 ÷ 3

(b) 424 ÷ 4

Division of 3 digit number by 1 digit number with remainder

Rs. 467 is distributed to 3 people equally. How much money does each get at most?

476 ÷ 3

100+50+5 = 155

```
   4 6 7
3) - 3 0 0
   -------
     1 6 7
   - 1 5 0
   -------
       1 7
     - 1 5
   -------
       2 Reminder
```

```
     H T O
     1 5 5
   -------
3) 4 6 7
 - 3 0 0
 -------
   1 6 7
 - 1 5 0
 -------
     1 7
   - 1 5
 -------
     2 Reminder
```

Rs. 467 has 4 hundred's notes, 6 ten's notes and 7 one's coins. 1/1 hundred's notes distributes to 3 persons, 1 hundred's note left.

1 hundred and 67 make Rs. 167 or 16 tens and 7 ones. Again each person distribute Rs 50 or 5 ten, 1 ten left. 1 ten and 7 one makes Rs. 17.

Each person get Rs. 5 and Rs. 2 left.

Divide:

$4\overline{)589}$	$6\overline{)723}$

Division of 3 digit number by 1 digit number with remainder

Let's divide 346 by 4 vertically.

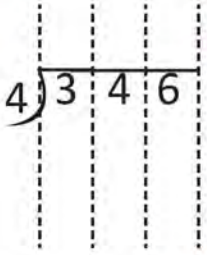
$4\overline{)346}$

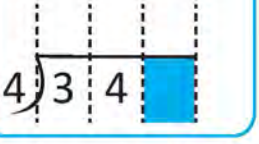
We don't write zero in place of hundred.

divided into place value of ten 34÷4

Hundreds place

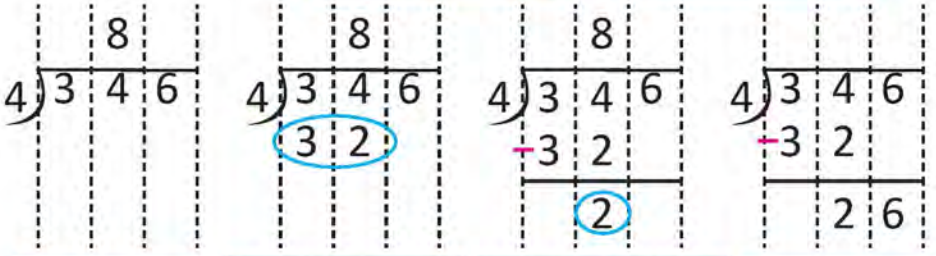
(1) 3 divided by 4, 3 ÷ 4 = 0





Tens place

(2) 34 divided by 4, 34 ÷ 4 = 8



Divide

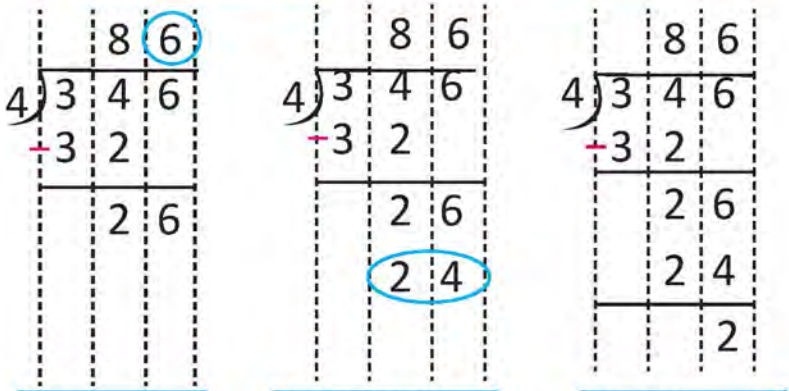
Multiplying
4 × 8 = 32

Subtracting
34 - 32 = 2

Bring down to 6.

Ones place

(3) 26 divided by 4, 26 ÷ 4 = 6

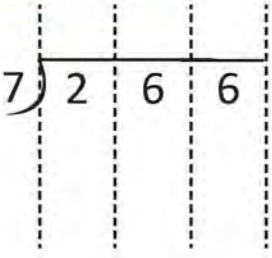


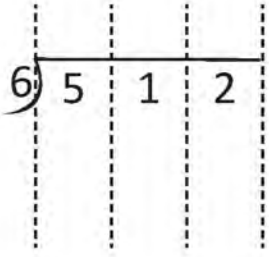
Divide

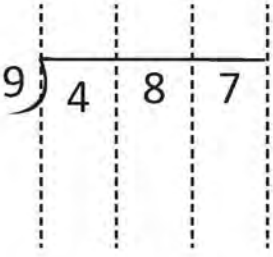
Multiply
4 × 6 = 24

Subtract
26 - 24 = 2

Divide:







Divide:

$4\overline{)649}$	$6\overline{)932}$
$7\overline{)890}$	$5\overline{)672}$
$8\overline{)983}$	$9\overline{)925}$

Divide 345 by 10.

$345 \div 10$

$$
\begin{array}{r}
34 \\
10\overline{)\,345} \\
-\,30 \\
\hline
45 \\
-\,40 \\
\hline
5
\end{array}
$$

Reminder

Dividing the number of hundred by 10

$34 - 30 = 4$

Bring down 5 and divide 45 by 10,

$10 \times 4 = 40$

$45 - 40 = 5$

Divide:

(a) $10\overline{)\,730}$

(b) $10\overline{)\,475}$

Divide:

(c) $10\overline{)638}$

(d) $10\overline{)768}$

(e) $10\overline{)786}$

(f) $10\overline{)762}$

(g) $10\overline{)688}$

(h) $10\overline{)729}$

Solve the problem given below:

1. Deepika has a total of 90 chocolates in one packet of chocolates. She tried to distribute chocolates to 8 friends equally. How many chocolates did each of them get? How many chocolates are left with her now?

2. In one school, 66 students were grouped consisting 8 students in each group. The rest were asked to observe. How many groups have been formed? How many students have observed?

3. There are 2 students in each seat of a bus. How many seats can be accommodated by 40 students? How many students have to stand on the bus?

4. Shyam has arranged 360 books equally in 4 drawers. How many books are there in each drawer?

)

5. Subas took Rs. 500 note and went to the cooperative near his house and exchanged Rs. 10 notes. How many notes of rupees did he receive?

)

6. Bina made 738 candles. How many packets does she make when she packs at the rate of 10 candles in each packet? How many candles are left?

)

Basic Mathematical Operation

Let's see. How much have I learnt?

1. Add

$$\begin{array}{r} 369 \\ +\ 785 \\ \hline \end{array}$$

$$\begin{array}{r} 4321 \\ 678 \\ +\ 1052 \\ \hline \end{array}$$

2. There are 565 sacks of rice in one shop. There are 806 sacks of rice in next shop. How many sacks of rice are there in both shop altogether?

3. Subtract:

$$\begin{array}{r} 5632 \\ -\ 3703 \\ \hline \end{array}$$

$$\begin{array}{r} 6315 \\ -\ 846 \\ \hline \end{array}$$

4. Harish's mother has Rs. 8965. She bought cloths for Harish for Rs. 6988. How much money is left with her now?

5. Multiply:

1 8 × 3	8 9 × 7	2 9 8 × 4 5

6. Divide:

$6\overline{)789}$	$8\overline{)750}$	$9\overline{)986}$

7. One school has 358 books of stories and poems. How many books can be kept in each drawer when the books are kept in 3 drawers? How many books are out of the drawer?

$\overline{)\quad\quad}$

Teacher's signature

Parent's signature

Lesson 16 Time 2

Relation between days and hours

Discuss:

Observe the given clock. The hour hand is at 12 and the minute hand is at 1. When the hour hand reaches 1 from 12, the minute hand completes one turn.

The time taken by the hour hand, reaches 1 from 12 is 1 hour.

How many hours does an hour hand take to complete one turn?

Similarly, how many hours does an hour hand take to complete two-turns?

The hour hand completes two complete turns in a day.

One complete turns of the hour hand = 12 hours

Two complete turns of the hour hand = 12 × 2 hours = 24 hours.

Therefore, 1 day = 24 hour.

Write the appropriate number in the blank box.

1 day equals to ☐ × 1 hours

3 days equal to ☐ × 3 hours

10 days equal to ☐ × 10 hours

☐ days equal to 24 × 5 hours

☐ is bigger unit between hour and day

Relation between hours and minutes

Discuss:

Observe the clock given on the right side. The long hand is the minute hand and the short hand is the hour hand.

When the minute hand completes one complete turn, it is 60 minutes or minute hand takes 60 minutes to complete one turn. Complete turn by the minute hand is equivalent to one hour time.

Therefore, one complete turn by minute hand = 60 minutes = 1 hour.

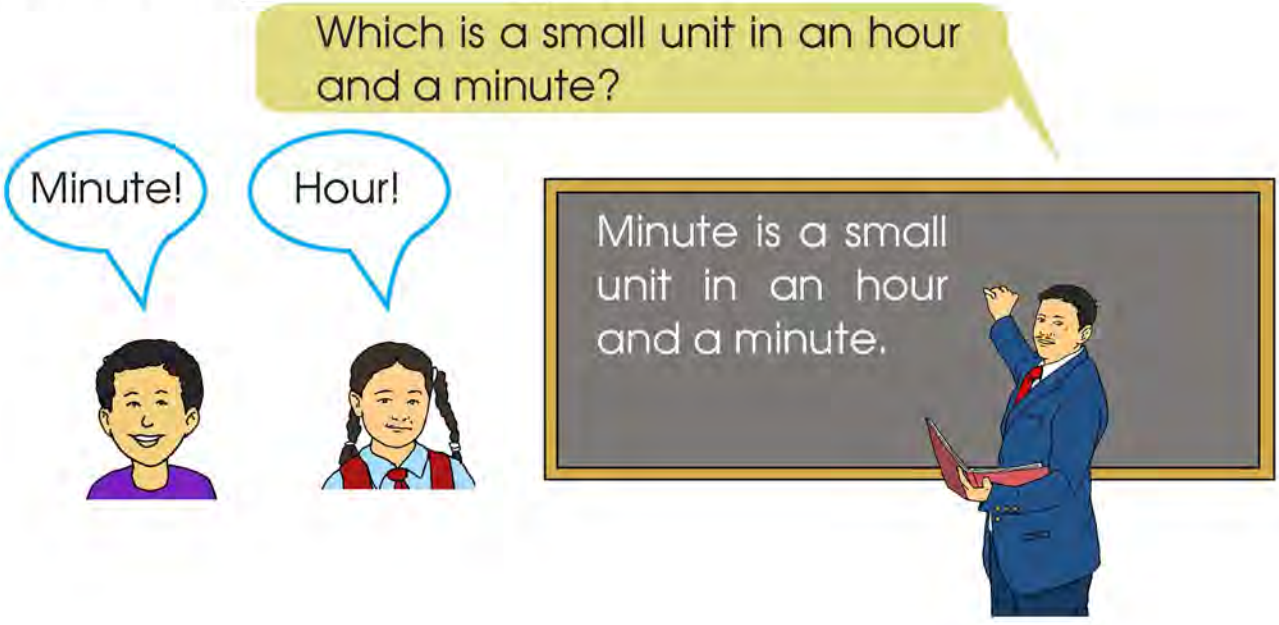
2 completes turn of the minute hand = [60 × 2 = 120] minutes

Therefore, 2 hours = [60 × 2 = 120] minutes.

Similarly, 3 hours = [ ] minutes.

4 hours = [ ] minutes.

10 hours = [ ] minutes.



Write the appropriate number in the blank space.

1 hour	=	60 × 1 minutes
7 hours	=	60 × ☐ minutes
☐ hours	=	60 × 15 minutes
☐ hours	=	60 × 18 minutes

5 hours	=	60 × ☐ minutes
12 hours	=	☐ × 12 minutes
☐ hours	=	60 × 20 minutes
☐ hours	=	60 × 24 minutes

Convert hours into minutes.

4 hours	6 hours	7 hours
60 × 4 = 240 minutes		
8 hours	5 hours	9 hours

Krishna completed a task in 3 hours. How many minutes did it take him to complete the work? ☐

It takes Shyam 1 hour and 10 minutes to reach school from home. How many minutes does it take him to get to school from home? ☐

Relation between minutes and seconds

Discuss:

Observe the clock given on the right side. The long hand is the minute hand, the short hand is the hour hand, and long and thin hand is second hand.

When the second hand completes one complete turn, it is 60 seconds or 1 minute.

1 minute = 60 seconds

2 minutes = 60 × 2 seconds = 120 seconds

Therefore, 2 minutes = 120 seconds

Similarly,

3 minutes = ☐ seconds

Therefore, 3 minutes = ☐ seconds

5 minutes = ☐ seconds

Therefore, 5 minutes = ☐ seconds

10 minutes = ☐ seconds

Therefore, 10 minutes = ☐ seconds

Second is a small unit in a minute and a second.

Fill in the blank space:

In 1 minute, the second hand completes ☐ complete turn.

In 3 minute, the second hand completes ☐ complete turn.

In 6 minute, the second hand completes ☐ complete turn.

In 8 minute, the second hand completes ☐ complete turn.

Fill in the blank space:

2 minutes = 60 × 2 seconds	4 minutes = 60 × ☐ seconds
4 minutes = 60 × ☐ seconds	4 minutes = 60 × ☐ seconds
☐ minutes = 60 × 12 seconds	☐ minutes = 60 × 15 seconds
☐ minutes = 60 × 20 seconds	☐ minutes = 60 × 25 seconds

Fill in the blank space:

3 minutes = ☐ seconds	7 minutes = ☐ seconds
8 minutes = ☐ seconds	10 minutes = ☐ seconds
15 minutes = ☐ seconds	20 minutes = ☐ seconds

Convert days into hours.

4 days = ☐ 6 days = ☐

7 days = ☐ 9 days = ☐

Convert the days and hours into hours.

1 day 2 hours

$24 \times 1 + 2 = 24+2 = 26$ hours

3 day 10 hours ☐

5 days 4 hours ☐

6 days 6 hours ☐

Calculate:

1. It takes almost 30 hours to travel by a bus from Kathmandu to Dipayal. How many days and hours does it take to travel?

2. It takes almost 1 day and 10 hours to travel by a bus from Kathmandu to Delhi. How many hours does it take to travel?

Relation between weeks and days

Discuss:

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
1	2	3	4	5	6	7

Sunday is the first day of the week.

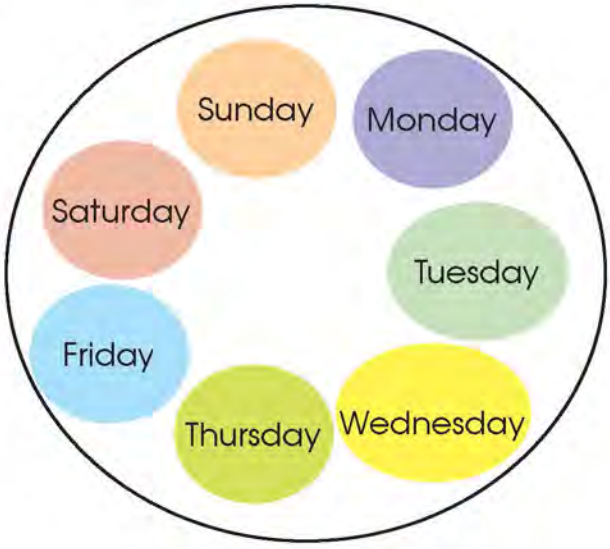
.....is the .....day of the week.

.....is the .....day of the week.

.....is the .....day of the week.

.....is the .....day of the week.

Saturday is the seventh day or last day of the week.



1 week = 7 days

Fill in the blank space:

There are ☐ days in a week.

Wednesday is the ☐ day of the week.

Friday is the ☐ day of the week.

Write the appropriate number in the blank space.

1 week	=	7 × 1 days.
3 weeks	=	☐ × 3 days.
5 weeks	=	☐ × 5 days.
10 weeks	=	☐ × 10 days.
15 weeks	=	7 × ☐ days.
20 weeks	=	7 × ☐ days.
☐ weeks	=	12 × 7 days.

Convert weeks into days:

4 weeks 7×4 = 28 days	8 weeks	9 weeks
11 weeks	16 weeks	21 weeks

Year and month

Discuss:

Baishakh	Jeth	Asar	Saun	Bhadau	Asoj	Kattik	Mansir	Push	Magh	Falgun	Chait
1	2	3	4	5	6	7	8	9	10	11	12

These are the names of the months given in the Nepali calendar.

Baishakh is the first month of the year.

Jetha is the second month of the year.

Similarly chait is the twelveth month or last month of the year.

What are the name of the months in the Nepali calendar?

How many months are there in a year?

What is the third month of the year?

What is the tenth month of the year?

There are twelve month in a year. Therefor 1 year = 12 months

How many months are there in 2 years?

2 years = 12 × 2 months
= 24 months

How many months are there in 5 years?

5 years = 12 × 5 months
= 60 months

Fill in the blank space.

The first month of the year is ☐

Saun is the ☐ month of the year.

There are ☐ months from Baishakh to Bhadau.

Push is the ☐ month of the year.

Write the appropriate number in the blank space.

2 years	=	12 × ☐ months.
7 years	=	12 × ☐ months.
20 years	=	☐ × 20 months.
60 years	=	☐ × 10 days.
☐ years	=	7 × ☐ days.
☐ years	=	7 × ☐ days.

Convert the years into months.

6 years ☐	5 years ☐	6 years ☐
8 years ☐	9 years ☐	10 years ☐

Year, Month, Week and Day

Read:

There are 12 months in a year. There are 7 days in a week.	1 years = 12 months 1 year = 365 days

How many days are there in a month?

Some months have 29 days, some have 30 days, some have 31 days, and even some months have 32 days.

Write the appropriate number in the blank space.

4 weeks = ☐ days.

2 years = ☐ months.

15 months = ☐ years and ☐ months

1 week and 3 days = ☐ × 10 days.

8 days = ☐ weeks and ☐ days

30 months = ☐ years and ☐ months

Covert to month.

5 years and 2 months 12×5+2 = 60+2 = 62 months	6 years and 3 months
10 months and 5 months	8 months and 4 months

Covert weeks and days into days.

5 weeks and 2 days 7×5+2 = 35+2 = 37 days	4 weeks and 5 days
9 weeks and 1 day	7 weeks and 4 days

Fill in the blank space.

There are ____ days in a week.

There are ____ months in a year.

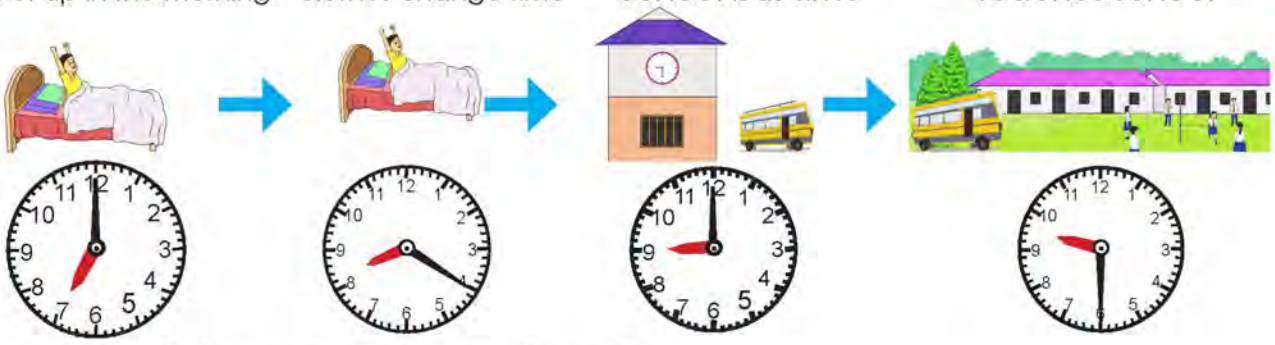
There are ____ days in a year.

There are ____ months in 3 years.

Find the time taken to do work:

Let's think about how long it takes.

Get up in the morning | clothes change time | School bus time | reaches school



1. What time does he get up?
2. What time does he change clothes?
3. What time does he leave home for school?
4. How long is it between getting up in the morning and changing clothes? ☐

5. How long is it between changing clothes and leaing home for school? ☐

6. How long is it between getting up in the morning and leaving home for school? ☐

7. How long is it between getting up in the morning and reaches school? ☐
8. How long is it changing clothes and reaches school? ☐

Find the time taken to do work:

1. Bindu left home at 9:45 am to go to school. If she arrives school at 10 o'clock, how long does it take her to reach school?

2. Bishnu practices yoga for 45 minutes daily. He always practices yoga from 6 o'clock in the morning and till what time does he practice yoga?

3. Kalpana's school is open from 10 a.m. to 3:30 p.m. How long does she stay at school?

My Daily Life 2

Let's see. How much have I learnt?

1. Dinesh takes a total of 43 days to complete a task. Binita takes six weeks to complete the same task. Who takes more time to complete that task and by how many more days?

2. Ranjan did his homework for 1 hour and 15 minutes. How many minutes did he do his homework?

3. Calculate:

5 years	=		months	=		months
8 weeks	=		days	=		days
7 days	=		hours	=		hours
6 hours	=		minutes	=		minutes

4. It takes 10 minutes for Hari to reach to school from his home. If he left home at 9:45 am to go to school, what time would he reach to school?

5. Suman took a total of 33 hours of mathematics classes on the use of abacus. How many days and hours did he take the class?

Teacher's signature

Parent's signature

Lesson 17 Money

Read and discuss:

Rupesh and Rupa were watching the news on television with their parents after dinner. Father was reading the news on his mobile phone. The news on the television was about the price hike in the market. Mother told us that when they were young children, they used to use 1 paisa, 5 paisa, 10 paisa, 25 paisa, and 50 paisa coins to buy things like chocolates, toys, copies, pencils.

Mother said further: "Even though we got 5 paisa, 10 paisa coins, we were happy and used to run to the shop to buy chocolates."

20 coins of 5 paisa is equal 1 rupee. One exercise book could be bought from 1 rupee. Now we have to spend more than 20 rupees to buy a exercise book.

In the time of their grandparents, one mana of ghee could be bought from 25 paisa. Now, one mana ghee costs up to Rs. 1000. Coins like 1 paisa 5 paisa 10 paisa and 50 paisa are stopped for being used. We can see only the coin of 1 rupee. After a while, this will also stop being used. When calculating money, paisa is also calculated along with rupees.

Convertion of rupees into paisa

Study:

Re. 1 = 100 paisa

Rs. 2 = 200 paisa

= 100 × 2 paisa

Rs. 3 = 300 paisa

= 100 × 3 paisa

Thus, multiplying the rupee by 100, the given rupee is converted into paisa.

Now,

Rs. 7 = 100 × 7 paisa

= 700 paisa

Rs. 10 = 100 × 10 paisa

= 1000 paisa

Again,

Rs. 15 = 100 × 15 paisa = 1500 paisa

Rs. 38 = 100 × 27 paisa = 2700 paisa

Convert rupees into paisa.

Rs. 6 =	Rs. 9 =
Rs. 12 =	Rs. 17 =
Rs. 22 =	Rs. 28 =
Rs. 29 =	Rs. 34 =

Fill in the blanks.

Now,

Rs. 2 is _____ Paisa.

Rs. 11 is _____ Paisa.

Rs. 17 is _____ Paisa.

Rs. 20 is _____ Paisa.

Rs. 26 is _____ Paisa.

Rs. 31 is _____ Paisa.

Rs. 38 is _____ Paisa.

Convert paisa into rupees:

Study:

Re. 1 = 100 paisa

100 paisa is Re. 1.

200 paisa is Rs. 2.

300 paisa is Rs. 3.

In short form Rupees is written as Rs.

Let's think, how much rupees is 500 paisa?

100 paisa = 100 × 1 paisa = Rs. 1

200 paisa = 100 × 2 paisa = Rs. 2

So that, 500 paisa = 5 × 100 paisa = Rs. 5

Similarly, how much rupees is 1000 paisa?

As above,

100 paisa = 100 × 1 paisa = Re 1

200 paisa = 100 × 2 paisa = Rs. 2

1000 paisa = 100 × 10 paisa = Rs. 10

Fill in the blank space:

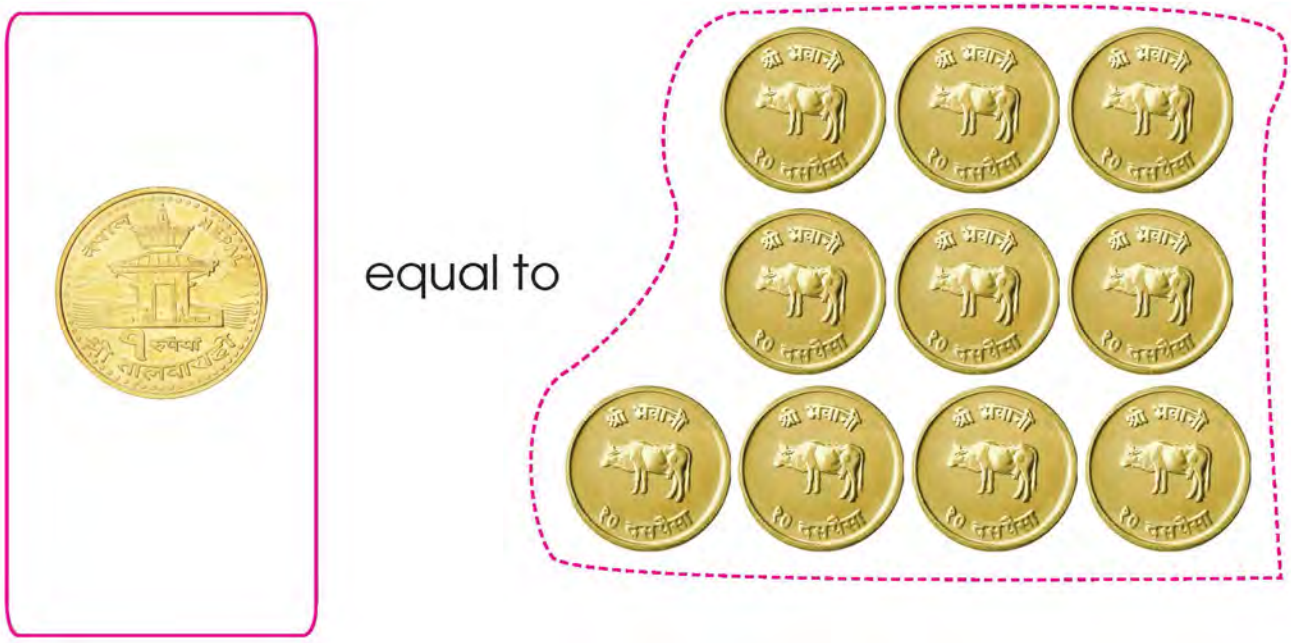
200 paisa = 100 × [2] paisa = Re. 1 [ ]	600 paisa = [ ] × 6 paisa = Rs. [ ]
700 paisa = 100 × [ ] paisa = Rs. [ ]	800 paisa = 100 × [ ] paisa = Rs. [ ]
900 paisa = [ ] × [ ] paisa = Rs. [ ]	[ ] paisa = [100] × 6 paisa = Rs. [ ]

Convert to rupees:

1300 paisa =	1900 paisa =
2300 paisa =	3900 paisa =
5100 paisa =	7200 paisa =
6500 paisa =	9900 paisa =

Conversion of rupees and paisa

Study:



550 paisa

500 paisa = Rupees 5

50 paisa = 50 paisa

Rupess 5

50 paisa

550 paisa = 5 Rupees and 50 paisa

1250 paisa

1200 paisa = Rupees 12

50 paisa = 50 paisa

Rupess 12

50 paisa

1250 paisa = 12 Rupees and 50 paisa

Fill in the blanks space.

Rs. 2 and 50 paisa = ☐ paisa and ☐ paisa = ☐ paisa	Rs. 18 and 25 paisa = ☐ paisa and ☐ paisa = ☐ paisa

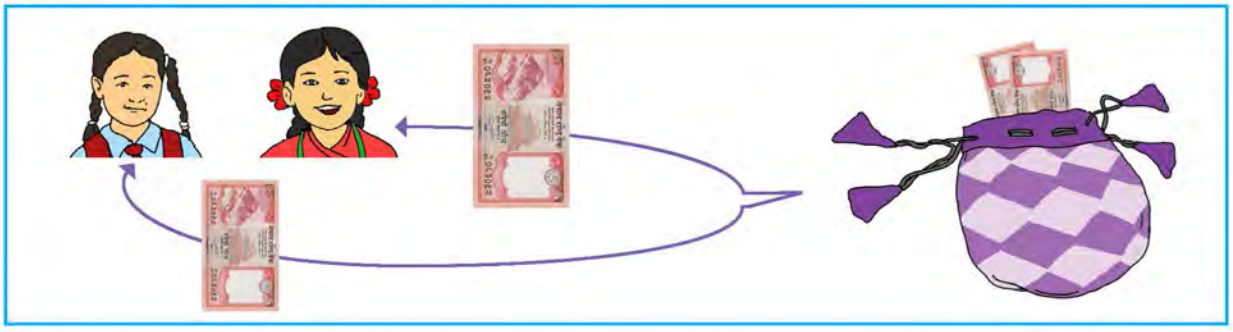
750 paisa 700 paisa and ☐ paisa Rs. ☐ and ☐ paisa	102 paisa = 100 paisa and ☐ paisa = Rs. ☐ and ☐ paisa

Convert in paisa.

7 Rupees and 80 paisa = _____ paisa	12 Rupees and 60 paisa = _____ paisa
25 Rupees and 90 paisa = _____ paisa	60 Rupees and 20 paisa = _____ paisa
75 Rupees and 70 paisa = _____ paisa	80 Rupees and 20 paisa = _____ paisa

Discuss:

Pushpa had 5 rupees. Rama also had 5 rupees. Both of them kept their money in the same bag. How much money is there in that bag?



Ramesh and Hari went to the market to buy oranges. Ramesh had Rs 50 and Hari had Rs 25. How much money do they use at most to buy oranges?

Rs. 50 + Rs. 25 = Rs. 75

$$\begin{array}{r} \text{Rs. } 50 \\ +\ \text{Rs. } 25 \\ \hline \text{Rs. } 75 \end{array}$$

They can buy oranges up to Rs 75 at most.

The money required to buy the goods are given below. Find out the value of each item.

Required money	Goods
	Rs.50 Rs.20 Rs. 5 Rs. ☐  Price Rs. ☐
	Rs. 100 Rs. 100 Rs. 50 Rs. ☐  Price Rs. ☐
	Rs. ☐ Rs. ☐ Rs. ☐ Rs. ☐ Rs. ☐  Price Rs. ☐
	Rs. ☐ Rs. ☐ Rs. ☐ Rs. ☐ Rs. ☐  Price Rs. ☐

Add:

Rs. 7 + Rs. 1 2	Rs. 1 8 + Rs. 1 2	Rs. 3 5 + Rs. 2 5	Rs. 7 5 + Rs. 7 2
Rs. 2 1 + Rs. 9 5	Rs. 7 1 + Rs. 2 8	Rs. 6 0 + Rs. 5 5	Rs. 2 6 + Rs. 7 2

Fill in the blank spaces:

Putting Rs.7 and Rs.12. in the same bag, now there is Rs. ☐

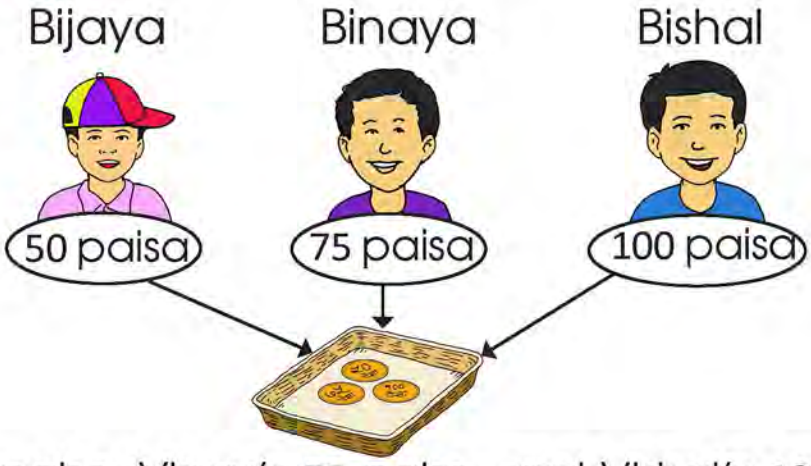
The sum of Rs. 150 and Rs. 500 is ☐

Rs. ☐ + Rs. ☐ is to be ☐

1. Pasang bought oranges worth Rs 100 and apples worth Rs 250 from the market. How much money did she spend to buy fruit?

2. Sumnima bought rice with Rs 200, vegetables with Rs 180, and sugar with Rs 60. How much did she spend in total?

Discuss:



Vijay's 50 paise, Vinay's 75 paise, and Vishal's 100 paise were kept in a bag. 50 paisa + 75 paisa + 100 paisa = 225 paisa

Fill in the blank space:

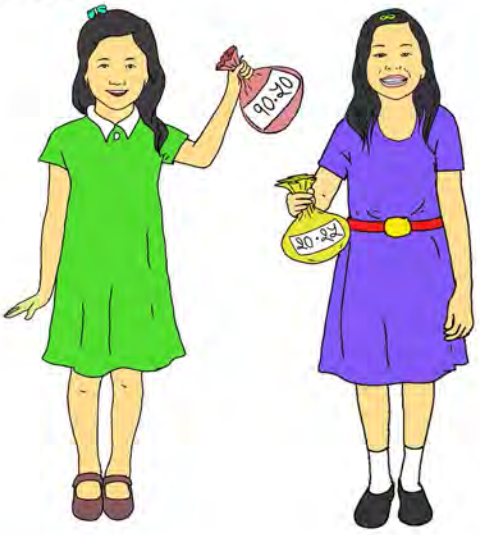
4 paisa + 6 paisa = ☐ paisa	25 paisa + 15 paisa = ☐ paisa
10 paisa + 15 paisa + 20 paisa = ☐ paisa	80 paisa + 20 paisa = ☐ paisa

Add:

25 paisa + 40 paisa ☐	66 paisa + 35 paisa ☐	55 paisa + 25 paisa ☐
20 paisa + 30 paisa ☐	40 paisa + 10 paisa ☐	65 paisa + 15 paisa ☐

Addition of rupees and paisa

Mina has 10 rupees and 50 paisa. Mira has 20 rupees and 25 paisa. They both went to the market. How much money can both of them spend to buy tomato altogether?



Mina Mira

50 + 25

10 rupees 50 paisa + 20 rupees 25 paisa= 30 rupees 75 paisa

10 + 20

Both Mina and Mira can buy tomato for a total of 30 rupees and 75 paisa.

Rupees should be added with rupees and paisa with paisa.

Study:

Rs 25 and 60 paisa + Rs 80 and 30 paisa + Rs 15 and 5 paisa = Rs 120 and 95 paisa.

Rupees	Paisa
25	60
80	30
+ 15	5
120	95

Add:

Rs. 25 and 60 paisa + Rs. 80 and 30 paisa + Rs. 15 and 5 paisa = Rs. 120 and 95 paisa.

= Rs. ☐ ☐ paisa

Rs. 7 and 15 paisa + Rs. 35 and 50 paisa

= Rs. ☐ ☐ paisa

Rs. 7 and 15 paisa + Rs. 21 and 50 paisa + Rs. 40 and 10 paisa

= Rs. ☐ ☐ paisa

Rs. 45 and 25 paisa + Rs. 60 and 45 paisa + Rs. 50 and 15 paisa

= Rs. ☐ ☐ paisa

Rs. 18 and 20 paisa + Rs. 39 and 25 paisa + Rs. 27 and 10 paisa

= Rs. ☐ ☐ paisa

Rs. 47 and 15 paisa + Rs. 34 and 35 paisa + Rs. 43 and 35 paisa

= Rs. ☐ ☐ paisa

Add:

Rs.	Paisa
22	20
+ 35	60

Rs.	Paisa
60	40
+ 45	25

Rs.	Paisa
55	35
+ 80	70

Rs.	Paisa
99	25
+ 80	60

Rs.	Paisa
60	40
+ 45	25

Rs.	Paisa
54	15
+ 80	70

Rs.	Paisa
105	25
+ 80	55

Rs.	Paisa
68	55
+ 39	46

Rs.	Paisa
87	25
+ 100	68

Rs.	Paisa
27	15
38	25
+ 45	50

Rs.	Paisa
85	10
100	55
+ 205	25

Sita took 80 rupees and went to the shop to buy an exercise book. She bought an exercise book for 50 rupees. How much money has she left now?

She had Rs. 80. She gave Rs 50 to the shopkeeper. Now, she has Rs. 30.

Rs. 80 - Rs. 50 = Rs. 30

Balaram took 50 rupees and went to the shop to buy some potatoes. He bought 1 kg of potatoes of Rs. 20. How much money is left with him now?

Rs. 50 - Rs. 20 = Rs. 30

So he has 30 rupees left.

Similarly,

Subtract 225 rupees from 550 rupees.

Subtract to find out left money. So subtract Rs 225 from Rs 550.

Rs. 550 - Rs. 225 = Rs. 325

	Rs. 5 5 0
-	Rs. 2 2 5
	Rs. 3 2 5

How much do you get back from the money given to the shopkeeper when you buy the following items?

Goods	The money you gave	The money you get back
 Price Rs. 70		Rs. 100 - Rs. 70 Rs. ☐
 Price Rs. 85		Rs. ☐ - Rs. ☐ Rs. ☐
 Price Rs. 225		Rs. ☐ - Rs. ☐ Rs. ☐
 Price Rs. 1275	 	Rs. ☐ - Rs. ☐ Rs. ☐

Subtract:

20 paisa - 10 paisa = ☐ paisa
50 paisa - 20 paisa = ☐ paisa
Rs. 100 - Rs. 50 paisa = Rs. ☐
Rs. 500 - Rs. 100 paisa = Rs. ☐

Fill in the blank space:

40 paisa - 20 paisa = ☐ paisa
80 paisa - 50 paisa = ☐ paisa
Rs. 100 - Rs. ☐ = Rs. 30
Rs. 500 - Rs. ☐ = Rs. 300

Subtract:

150 paisa - 70 paisa = ☐ paisa
560 paisa - 50 paisa = ☐ paisa
Rs. 770 - Rs. 235 = Rs. ☐
Rs. 130 - Rs. 70 = Rs. ☐

Discuss:

Dhanmaya had 10 rupees and 50 paisa. She went to the market and bought chocolates for 10 rupees. How much money is left with her now?

	Rs.	paisa
	10	50
-	10	00
	0	50

She has 50 paisa left.

Hari has 50 rupees and 25 paisa. He lost 25 paisa on the way. How much is left with him now?

How to find?

	Rs.	paisa
	50	25
-	00	25
	50	0

Subtract:

1. 10 rupees 20 paisa - 10 rupees = Rs. ☐☐ paisa
2. 20 rupees 50 paisa - 15 rupees 50 paisa = Rs. ☐☐ paisa
3. 40 rupees 75 - 20 rupees 50 paisa = Rs. ☐☐ paisa

Subtract:

Rs.	Paisa
60	25
- 25	15

Rs.	Paisa
80	10
- 20	10

Rs.	Paisa
145	65
- 55	20

Calculate:

1. Rupa has 300 rupees. If she buys vegetables for Rs 105, how much is left with her?

2. Pemba has 100 rupees. If he buys some chocolates for Rs 10 and an exercise book for Rs 25, how much rupee has been left now?

Lesson 18 Capacity

Discuss the conversation between Gita and Pasang.

Pasang : What is written on the water bottle that you have, Gita?
Gita : 1 litre is written. What about the bicker you have?
Pasang : 100 ml is written.
Gita : How many times can this bottle of water fill your bicker?
Pasang : Let's fill it and see?
Gita : Yes, let's fill it.
Pasang : It is enough to fill 10 times.
Gita : So, what is the relationship between litre and millilitres?
Pasang : Let's ask to the mathematics teacher.
Gita : ok.

Table made by mathematics teacher

Litre (ℓ)	1	2	3	4	5	6	7
Mililitre (ml)	1000	2000	3000	4000	5000	6000	7000

a. How many times does it take to fill 1 litre containers from 500 ml container?

b. How many times does it take fill 1 litre container from 200 ml container?

c. So how many mililitre are in 1 litre?

Complete the given table:

Litre	Mililitres
2	
3	
4	
5	
6	
7	
8	

Mililitre	Litre
7,000	
9,000	
3,000	
5,000	
8,000	
1,000	
6,000	

Which units litre or millilitre, would be suitable for measuring the capacity of the following items? Write litre and millilitre.

Take a look at the container in your home. Fill in the names of the container and their capacity in the table.

Container name	Litre	Mililitre

Write down the names of the container you have seen in your home, neighborhood or school with the estimated capacity as given below.

Estimated capacity	Container name
5 millilitres	
10 millilitres	
100 millilitres	
500 millilitres	
1 litre	
5 litres	
20 litres	
1000 litres	

Put greater than (>), less than (<), and equal sign (=) in the box below.

2 litres	☐	1000 millilitres
6 litres	☐	6000 millilitres
4 litres	☐	4500 millilitres
1200 millilitres	☐	2 litres
500 millilitres	☐	5 litres
300 millilitres	☐	3 litres
50 millilitres	☐	5 litres
7000 millilitres	☐	7 litres
150 millilitres	☐	1 litre
2000 millilitres	☐	2 litres
1 litre	☐	750 millilitres

Fill in the blanks as shown in the example.

1 litre 500 millilitres = [1000] ml. + 500 ml. = [1500] ml.

2 litres 250 millilitres = [ ] ml. + [ ] ml. = [ ] ml.

3 litres 500 millilitres = [ ] ml. + [ ] ml. = [ ] ml.

5 litres 750 millilitres = [ ] ml. + [ ] ml. = [ ] ml.

6 litres 400 millilitres = [ ] ml. + [ ] ml. = [ ] ml.

7 litres 100 millilitres = [ ] ml. + [ ] ml. = [ ] ml.

8 litres 400 millilitres = [ ] ml. + [ ] ml. = [ ] ml.

9 litres 500 millilitres = [ ] ml. + [ ] ml. = [ ] ml.

10 litres 200 millilitres = [ ] ml. + [ ] ml. = [ ] ml.

12 litres 100 millilitres = [ ] ml. + [ ] ml. = [ ] ml.

20 litres 500 millilitres = [ ] ml. + [ ] ml. = [ ] ml.

Add:

12 litres + 14 litres = ☐ litres

15 litres + 45 litres = ☐ litres

200 millilitres + 300 millilitres = ☐ millilitres

500 millilitres + 700 millilitres = ☐ millilitres

215 millilitres + 685 millilitres = ☐ millilitres

450 millilitres + 350 millilitres = ☐ millilitres

100 litres + 75 litres ☐ litres	60 litres + 8 litres ☐ litres	600 millilitres + 350 millilitres ☐ millilitres
120 millilitres + 680 millilitres ☐ millilitres	650 millilitres + 350 millilitres ☐ millilitres	560 millilitres + 440 millilitres ☐ millilitres

Subtract:

litre 15 - 12	litre 18 - 8	litre 75 - 12
litre 17 - 9	litre 91 - 68	litre 77 - 29
millilitre 400 - 200	millilitre 650 - 250	millilitre 850 - 700
millilitre 750 - 280	millilitre 360 - 290	millilitre 750 - 660

Calculate:

Mamta drinks 4 litres of water every day. How many litres of water does she drink in 2 days?

Vivek's family consumed 500 litres of water on the first day, 700 liters on the second day. How many litres of water have been consumed in two days?

On the roof of a house, there are two water tanks with the capacity given in the picture. How many litres of water can both tanks hold?

Calculate:

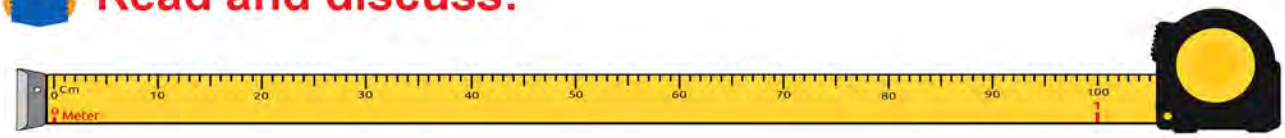
1. One jerkin contains 5 litres of water. 2 litres of water was taken out from the jerkin. How many litres of water are left now?

2. 300 litres of water has been spent on sanitation from a tank with 1000 litres of water. How much litres of water are left in the tank?

3. One patient took 240 millilitres of medicine in eight days from a containing bottle 750 millilitres. How much medicine is left in the bottle?

Convert metre into centimetre

Read and discuss:

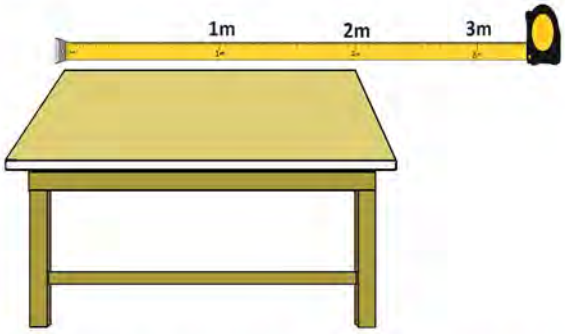


1 metre = 100 cm.

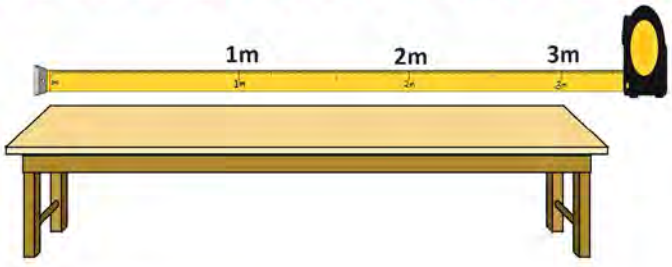
How long is this table?

How many metres?

How many centimetres?



This bench is 3 metres long. This bench is 300 centimetre long.

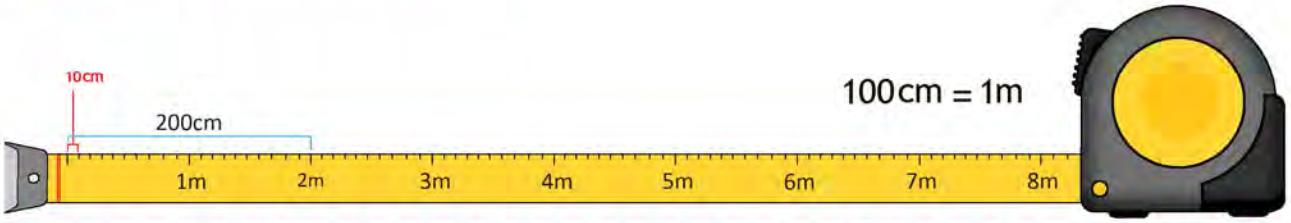


3 metre = 300 cm.

Similarly,

3 m.	=	100 × 3 cm.	=	300 cm.
7 m.	=	100 × 7 cm.	=	700 cm.
12 m.	=	100 × 12 cm.	=	1200 cm.
86 m.	=	100 × 86 cm.	=	8600 cm.

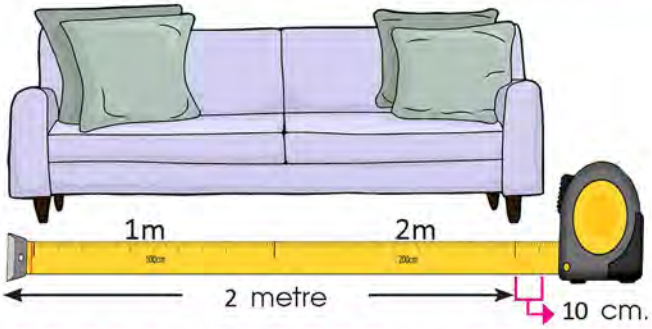
Read and discuss:



This sofa is 2 metres and 10 centimetres long.

2 metre is 200 centimetres.

So its length is 200 cm + 10 cm = 210 cm.



How long is this stick?

This stick is more than 2 metres long.

This stick is 2 metres and 50 centimetres long.

2m = 100 × 2 cm

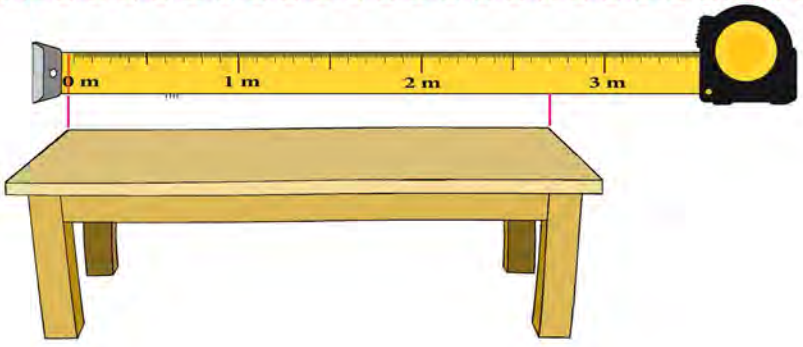
So the length of stick = 2 m and 50 cm

= 100 × 2 cm + 50 cm

= 200 cm + 50 cm

= 250 cm

How long is this bench?



Fill in the blank space.

2 m. = ☐ × 2 cm. = ☐ cm.

4 m. = ☐ × 4 cm. = ☐ cm.

6 m. = 100 × ☐ cm. = ☐ cm.

10 m. = ☐ × ☐ cm. = ☐ cm.

☐ m. = 100 × 8 cm. = ☐ cm.

☐ m. = ☐ × 5 cm. = ☐ cm.

☐ m. = ☐ × 6 cm. = ☐ cm.

10 m. = ☐ × ☐ cm. = ☐ cm.

Convert into centimetre.

4 m.	☐	8 m.	☐
17 m.	☐	22 m.	☐
250 m.	☐	70 m.	☐
100 m.	☐	15 m.	☐

Lesson 20 Weight

Find out by weighing

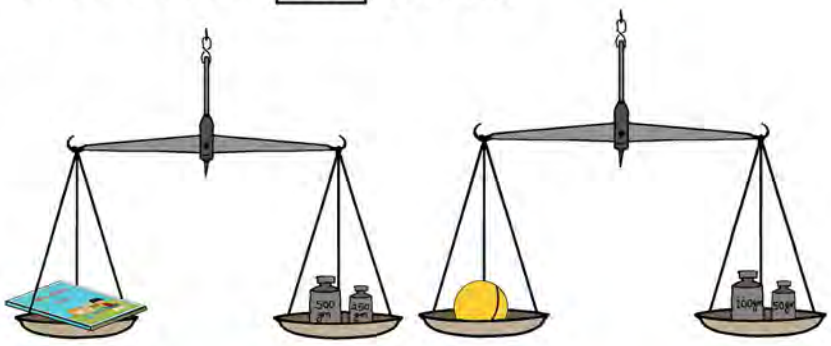
Which is lighter, mathematics book or cricket ball? How do find it?

We can find it by lifting. Further we weigh on the balance to know the weight.

The weight of mathematics book is [750] grams.

The weight of cricket ball is [150] grams.

The cricket ball is lighter than the maths book.



Which is heavier, pumpkin or cucumber? How do you find it?

We can find it by lifting a pumpkin and a cucumber. Moreover, if we weigh it on the balance to know the weight.

The weight of cucumber is [1] kilogram.

The weight of pumpkin is [5] kilograms.

The pumpkin is heavier than the cucumber.

What is the relation between gram and kilogram?

Let's observe the given table.

Kilogram	1	2	3	4	5	6
Gram	1000	2000	3000	4000	5000	6000

Estimate the weight of the items given below and tick (√) the appropriate weight.

Weight of the bag with all books of grade 3

(a) 2 kilograms. (b) 200 grams

Weight of geometry box with instruments

(a) 150 gram (b) 1000 gram

Rice sack

(a) 20 kilograms (b) 5 kilograms

Weight of a student in grade 3

(a) 200 grams (c) 20 kilograms

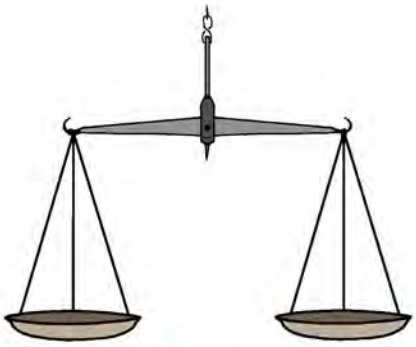
Estimate the weight of the items given below and write grams or kilograms which is an appropriate.

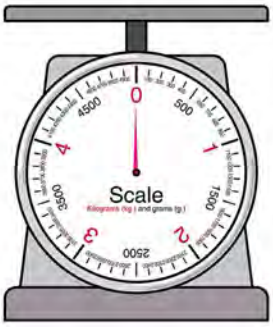
Estimate and write the weight of the items given below.

..... 	..... 
..... 	..... 
..... 	..... 

Make a group of students in a class of six or seven and go to the nearest vegetable and food shop with the teacher. Make a list of any 10 different items available in the store. Fill in the table below with the estimated weight and actual weight of each material.

S.N.	Items	Estimated weight	Actual weight





Convert into grams.

2 kg. = 2000 grams

9 kg. = ____ grams

5 kg. = ____ grams

7 kg. = ____ grams

3 kg. = ____ grams

2 kg. 500 grams = 2000 grams + 500 grams = 2500 grams

3 kg. 300 grams = ____ grams + ____ grams = ____ grams

4 kg. 400 grams = ____ grams + ____ grams = ____ grams

7 kg. 100 grams = ____ grams + ____ grams = ____ grams

9 kg. 300 grams = ____ grams + ____ grams = ____ grams

Lesson 21 Pictograph

Study and discuss the given pictograph.

A primary school plans to buy jackets for the students of grade 1 to 5 from a store in the winter. The number of students of grade 1 to 5 are given below.

Grades	1	2	3	4	5
Number of students	60	80	120	100	40

Each ▲ stands for twenty students.

Grades	Numbers of students
1	▲ ▲ ▲
2	▲ ▲ ▲ ▲
3	▲ ▲ ▲ ▲ ▲ ▲
4	▲ ▲ ▲ ▲ ▲
5	▲ ▲

Draw a pictograph based on the table below.

Grades	1	2	3	4	5
Number of students	25	30	35	20	30

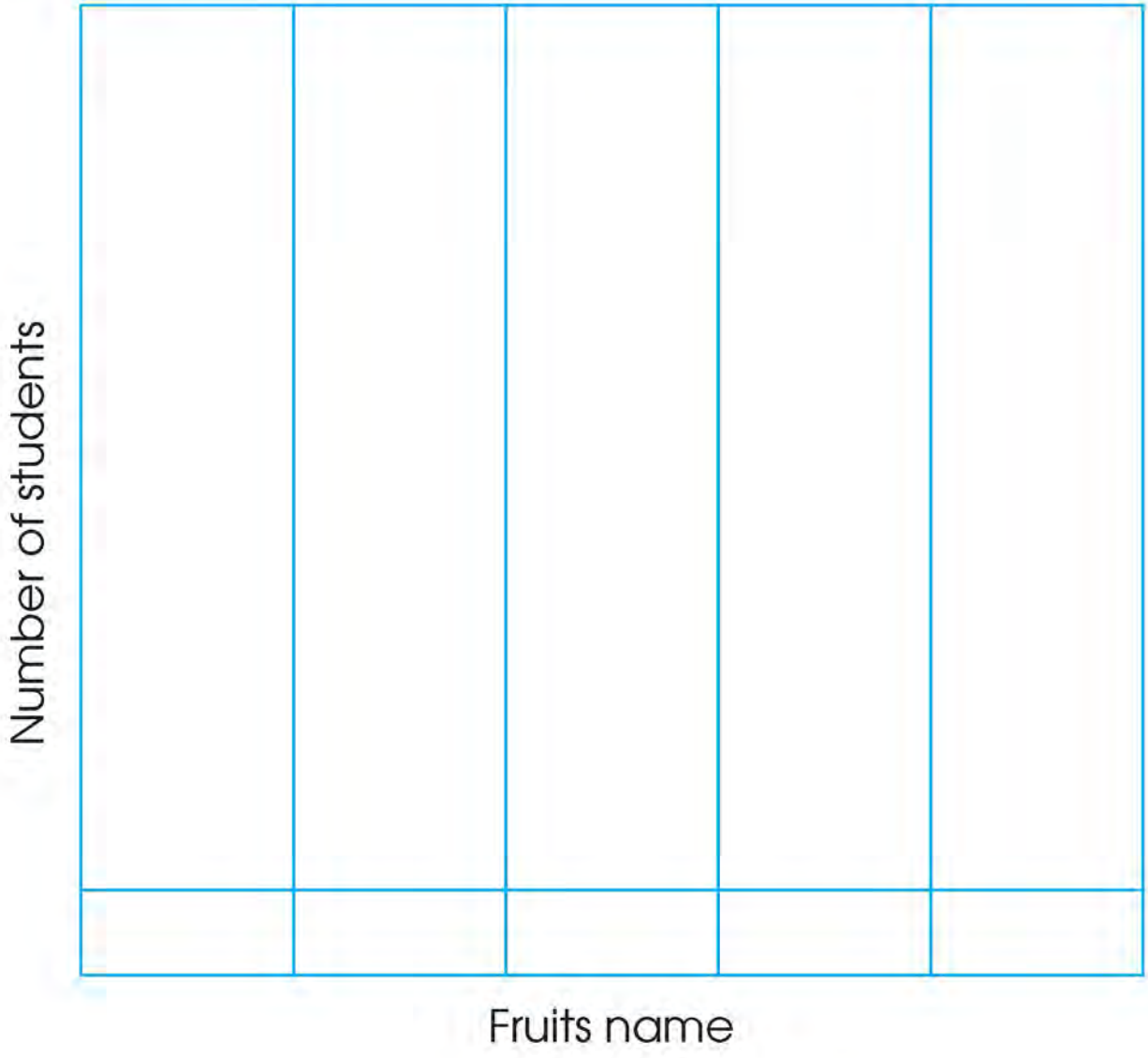
denotes 5 students.

Grades	Numbers of students
1	
2	
3	
4	
5	

Ask your classmates what your favorite fruit is and make a table.

Fruits					
Number of students					

Indicates one student. Draw a pictograph based on the table below.



Count the following items in your kitchen and write them in the table given below and make a pictograph.

Items in the kitchen	Plate	Spoon	Glass	Bowl	panyu
Number					

Communication Technology and Market

Let's see. How much have I learnt?

1. Fill in the blank space:

a. You need ☐ coins of 50 paisa to make 1 rupee.

b. You need ☐ coins of 25 paisa to make 1 rupee.

c. ☐ coins of 10 paisa equal to 1 rupee.

d. ☐ coins of 5 paisa equal to 1 rupee.

e. ☐ coins of 1 paisa equal to 1 rupee.

f. 1 rupee is equal to ☐ paisa.

g. The short form of 1 rupee is written as ☐

h. You need ☐ coins of 50 paisa to make 2 rupees.

i. 2 rupees is equal to ☐ paisa.

j. You need ☐ coins of Re 1 to make 10 rupees.

2. Fill in the blank space:

(a) Re. 1 = paisa

(b) Rs. 4 = ☐ × 4 paisa = ☐ paisa

(c) Rs. 8 = ☐ × 8 paisa = ☐ paisa

(d) 600 paisa = ☐ × 6 paisa Rs. ☐

(e) 900 paisa = ☐ × 9 paisa = Rs. ☐

3. Fill in the blanks as in the example.

(a) 5 rupees 20 paisa = 100 × 5 paisa + 20 paisa
= 500 paisa + 20 paisa
= 520 paisa

(b) 8 rupees 80 paisa = ☐ × 8 paisa + ☐ paisa
= ☐ paisa + ☐ paisa
= ☐ paisa

(c) 15 rupees 25 paisa = ☐ × 15 paisa + ☐ paisa
= ☐ paisa + ☐ paisa
= ☐ paisa

(d) 120 paisa = 100 paisa + 20 paisa
= 1 rupee and 20 paisa

(e) 105 paisa = ☐ paisa + ☐ paisa
= ☐ paisa and ☐ paisa

(f) 250 paisa = ☐ paisa + ☐ paisa
☐ × 2 paisa + ☐ paisa
= ☐ paisa and ☐ paisa

4. Add:

25 paisa	
+ 50 paisa	

35 paisa	
20 paisa	
+ 10 paisa	

Rs.	paisa
500	25
+ 128	10

5. Subtract:

95 paisa - 25 paisa	100 paisa - 48 paisa	Rs. / paisa 1000 / 50 - 928 / 25

6. Calculate:

litre	litre	millilitre	millilitre
300 + 250	750 + 250	525 - 128	1000 - 600

7. In one house, there is a tank that can hold 500 litres of water and another can hold 250 litres of water. If both tanks are full of water, how much litres of water is there?

8. A tank of capacity 1,000 litres was filled with water in Sharan's house. If 650 litres of water is taken out from the tank, how much water is left in the tank?

9. Fill in the blank space:

(a) 1 centimetre = ☐ milimetre

(b) 3 centimetre = ☐ milimetre

10. Convert into millimetres:

(a) 4 cm. = ☐ mm. (b) 10 cm. = ☐ mm.

11. Convert to centimetre:

(a) 3 m. = ☐ cm.

(b) 5 m. 50 cm. = ☐ × 5 cm. + 50 cm.

= ☐ cm. + 50 cm.

= ☐ cm.

12. Convert to gram:

(a) 5 kg. = ☐ gram

(b) 2 kg. 100 gram. = 2 × ☐ gram + ☐ gram

= ☐ gram + ☐ gram

= ☐ gram

13. Draw a pictograph based on the table below.

Interested field	Dance	Music	Singing	Painting	Drama
Number of student	24	16	12	20	4

✿ = 4 students

Interested field	Numbers of students

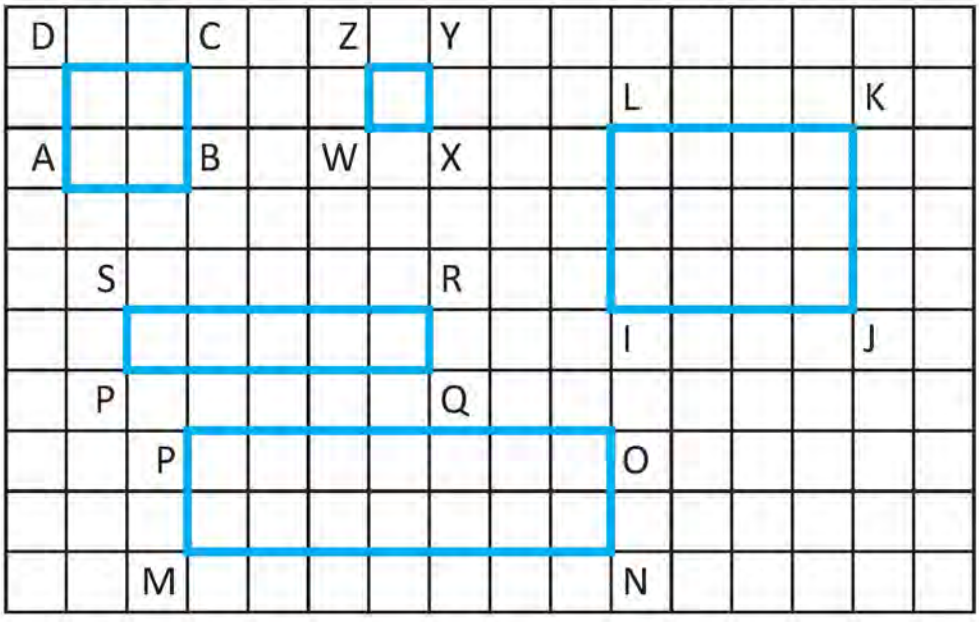
Teacher's signature

Parent's signature

Lesson 22 Area

Study the given graph.

In the picture, the pieces of land of a village are presented in the graph. Dilmaya and Rahman inquired about the graph and the teacher made a presentation based on the queries.



The squares and rectangles are drawn in the above graph. WXYZ is a square of unit length. Its area is one square unit. It is also called unit square.

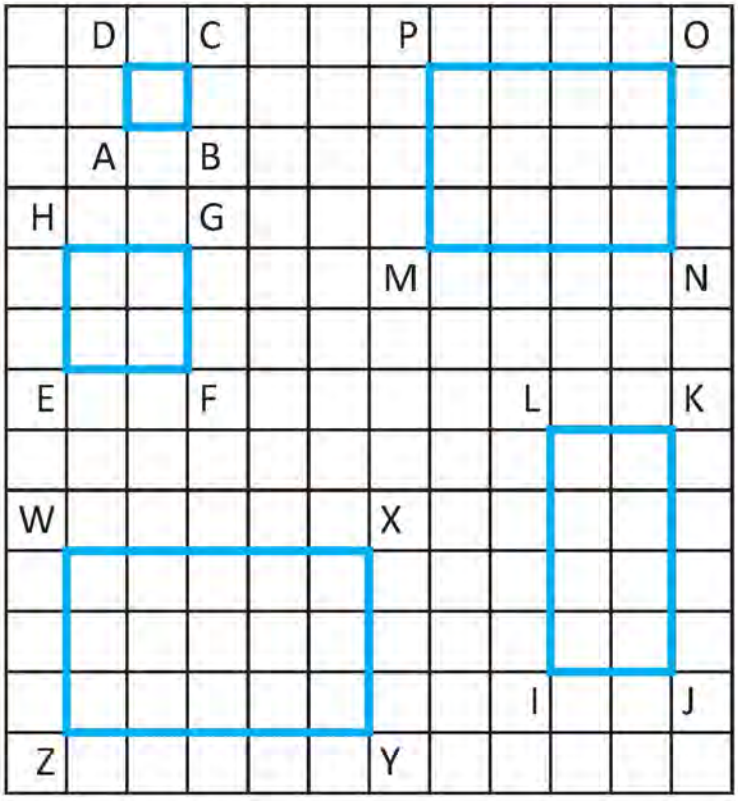
ABCD is a square. It has 4 small unit squares or square ABCD has 4 unit squares.

So the area of square ABCD is 4 square units. PQRS is a rectangle. It has 5 unit square. So, the area of the rectangle PQRS is 5 square units.

Rectangle IJKL contains 12 small unit squares. So, the area of the rectangle IJKL is 12 square units.

MNOP is a rectangle. It has 14 small unit squares. So, the area of the rectangle MNOP is 14 square units.

Study the graph below and fill in the blanks.



ABCD is a unit square.

Area of the ABCD is ☐ square unit.

EFGH has ☐ small unit square.

So, area of the EFGH is ☐ square units.

MNOP is a rectangle. Its length is ☐ unit and breadth is ☐ unit.

MNOP has ☐ small unit square. Its area is ☐ square units.

WXYZ is a rectangle. Its length is ☐ unit and breadth is ☐ unit.

WXYZ has ☐ small unit square.

Area of WXYZ is ☐ square units.

IJKL is a rectangle. It has ☐ small unit square.

Its area is ☐ square units.

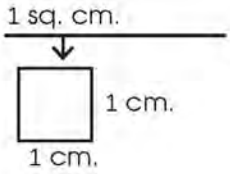
Let's find the area:

This is a square.

Length of its side is 1 cm.

Breadth is also 1 cm.

It occupies 1 square unit space.



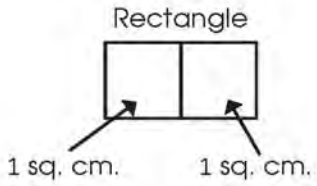
This is a rectangle.

Its length is 2 cm.

Breadth is 1 cm.

It consists 2's squares of 1 square cm. (It has 2 unit squares.)

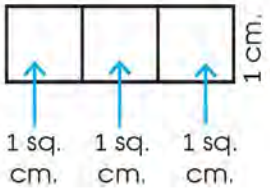
So, its area is 2 square units.



This rectangle is 3 cm long and 1 cm wide

How many 1 square cm squares are there?

Since this rectangle consists 3's squares of 1 square cm, so its area is 3 square cm.



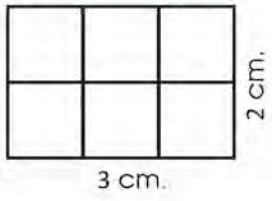
Its length is 3 cm.

Breadth is 2 cm.

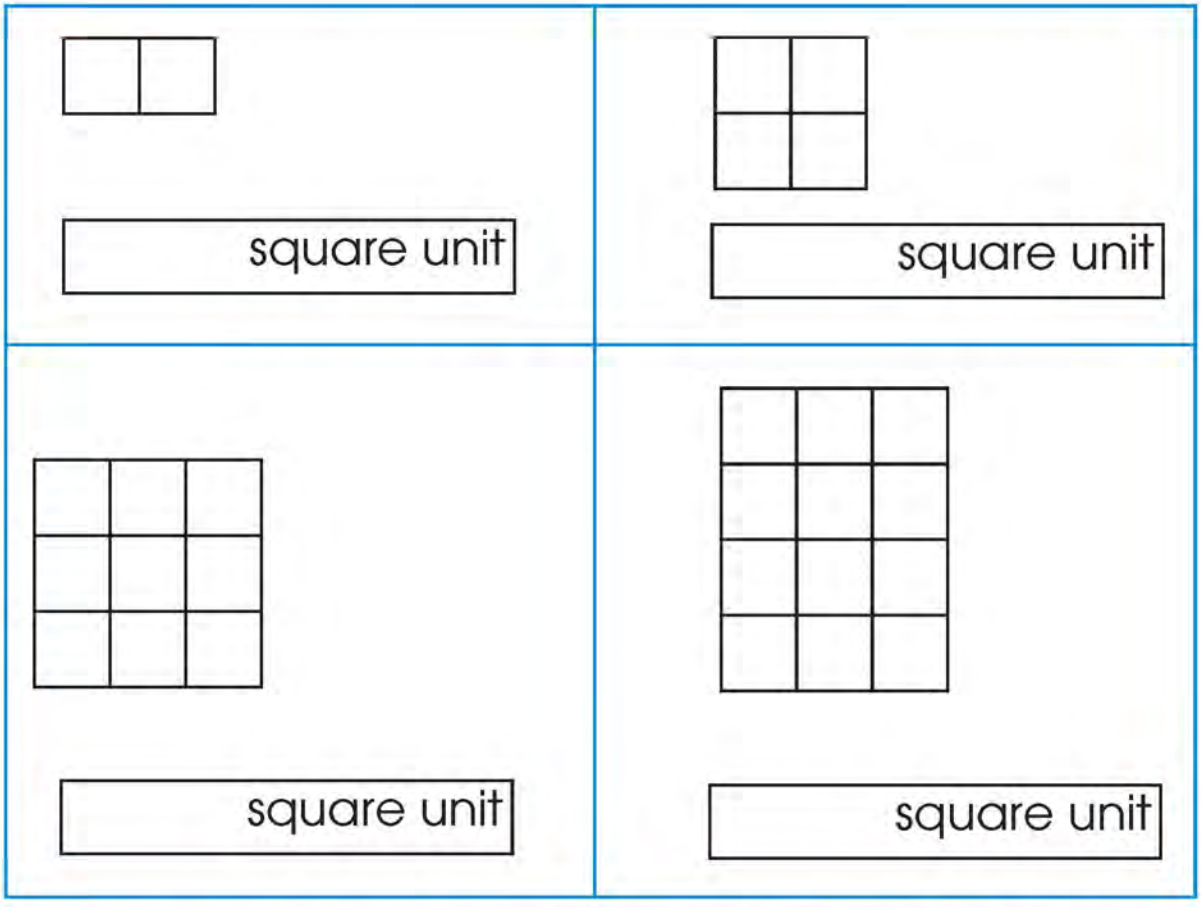
Let's count! How many 1 square cm squares are there?

Here, there are a total of 6's 1 square cm squares.

So, area of this rectangle is 6 square cm.



Find the area by counting the squares in the pictures below.



square unit

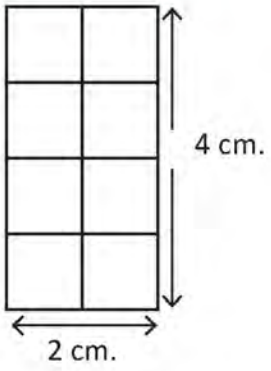
square unit

square unit

square unit

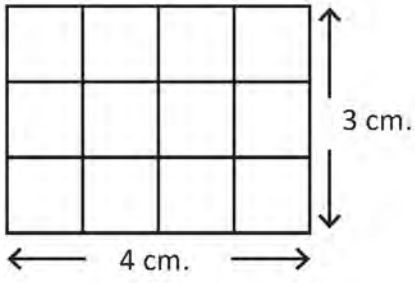
Find the area by counting the squares.

1.



square unit

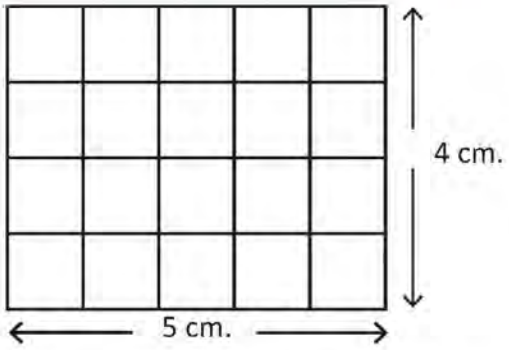
2.



square unit

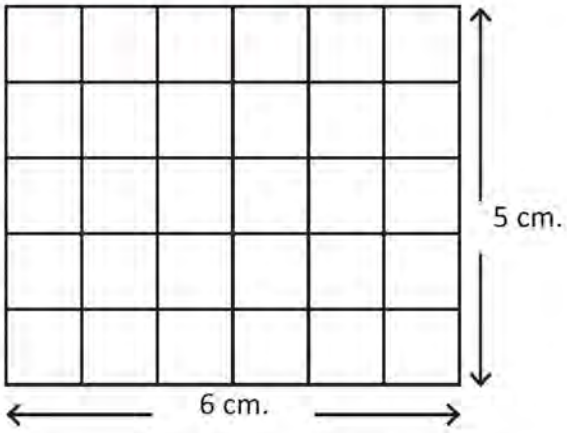
Find the area by counting the squares.

1.



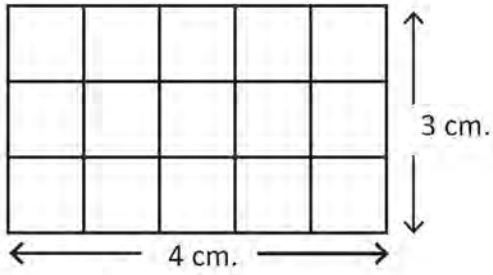
square cm.

2.



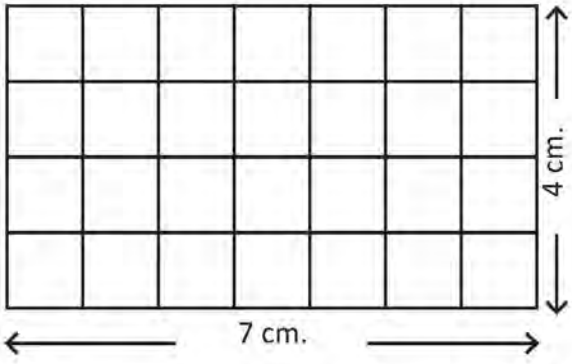
square cm.

3.



square cm.

4.

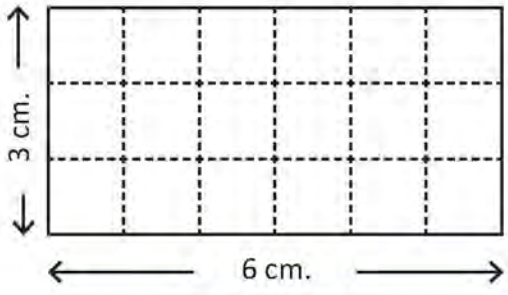


square cm.

Let's find the area:

Pitamber and Christina did a project work related to area. They presented what they had learned from the project work in the classroom.

The area is found by counting the number of unit squares on a rectangular surface. Such as:

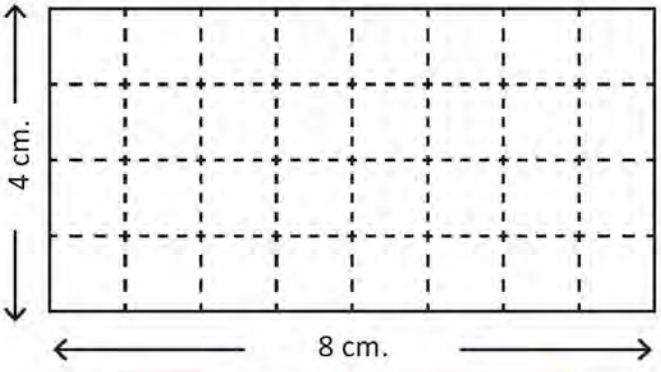


6 × 3 square cm.

This is a rectangle with length 6 cm and breadth 3 cm. dividing it into unit squares, how many unit squares can it hold?

Draw horizontal and vertical straight lines at a distance of 1 cm and divide the rectangle into unit squares with a length of 1 cm and a width of 1 cm. Since 18 unit square are found here, the area of this rectangle is 18 square cm.

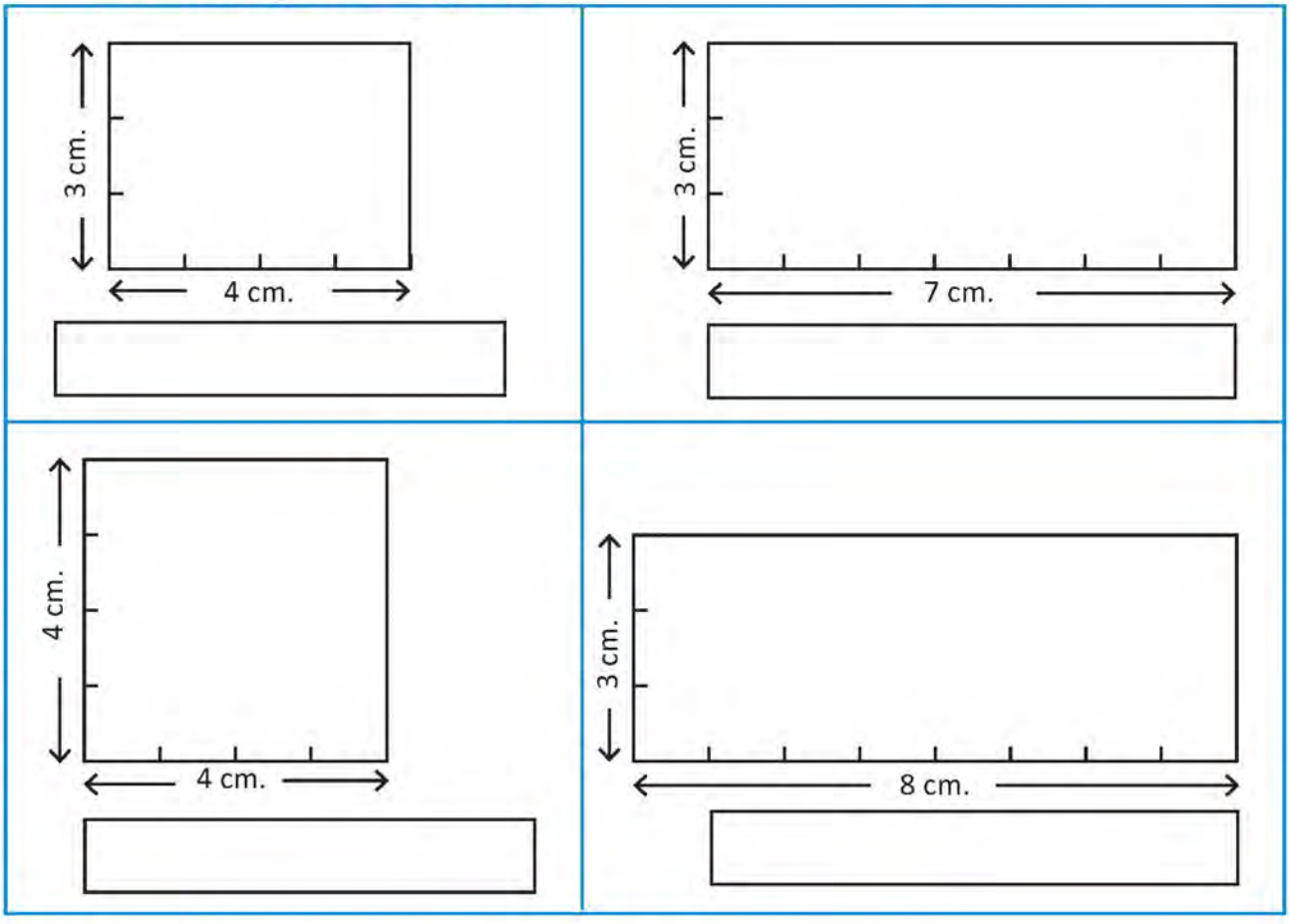
The area of the rectangle on the right side can also be found by dividing it into square rooms by drawing horizontal and vertical lines at a distance of 1 cm as above.



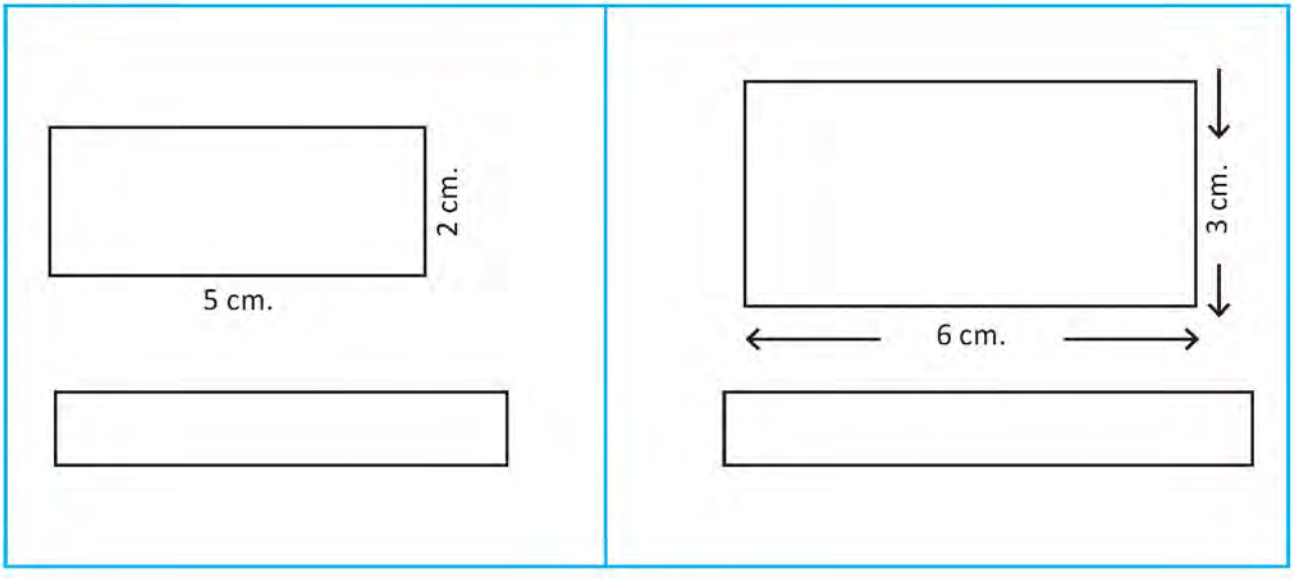
8 × 4 square cm.

Area of this rectangle is 32 square cm.

Draw horizontal and vertical straight lines from the marked points and find the area of given figures by counting the squares.



Find the area by making unit squares.



Find the area:

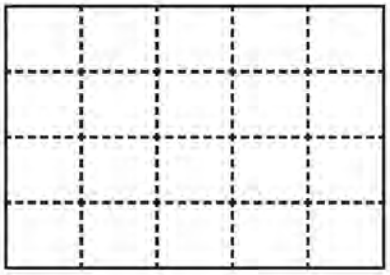
The figure on the right side is a rectangle. Estimate its area.

The area of the rectangle on the right side ☐ square cm.

Now measure its length.

Also measure the width.

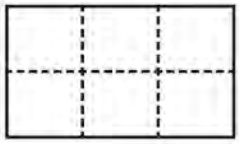
Draw the horizontal and vertical lines and divide 1 square cm to compare the estimated area with the actual area.



Also estimate the area of the rectangle on the right side as above.

The area of the rectangle on the right ☐ square cm.

Now find the actual area by drawing vertical and horizontal lines.

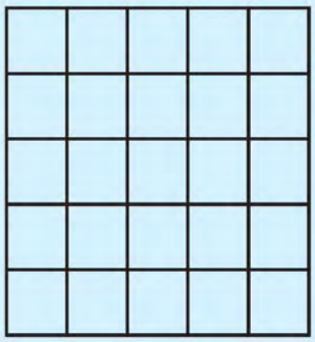


What is the difference between actual area and estimated area?

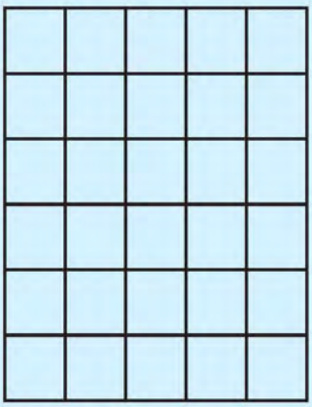
Measurement

Let's see. How much have I learnt?

1. Find the area by counting the unit square of the surfaces given below.

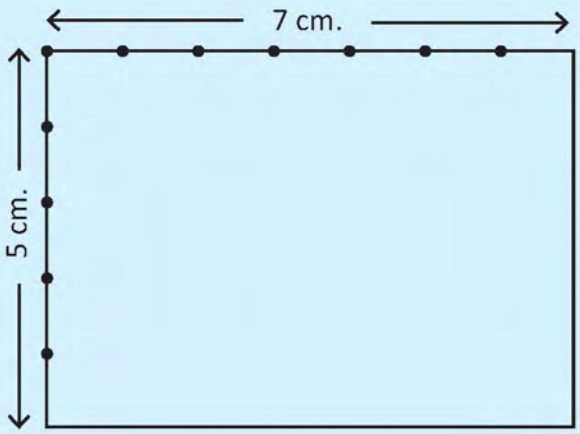


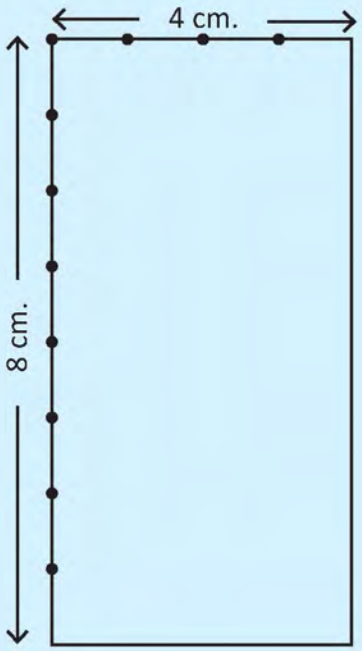
square unit



square unit

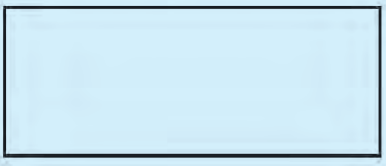
2. Draw horizontal and vertical straight lines from the marked parts and find the area of given figure.



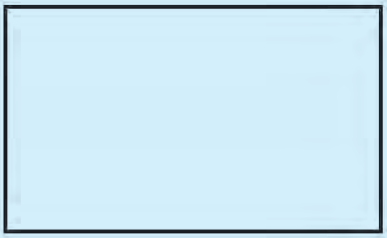


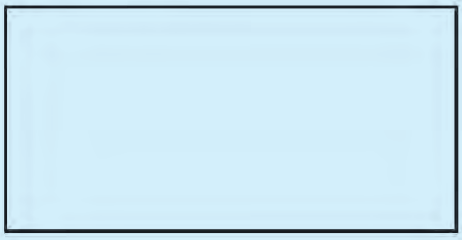
3. Estimate the area of the following rectangles. Find the actual area by drawing vertical and horizontal straight lines and making unit squares of 1 cm long and fill in the table below:

1. 

2. 

3. 

4. 

5. 

6. 

7. 

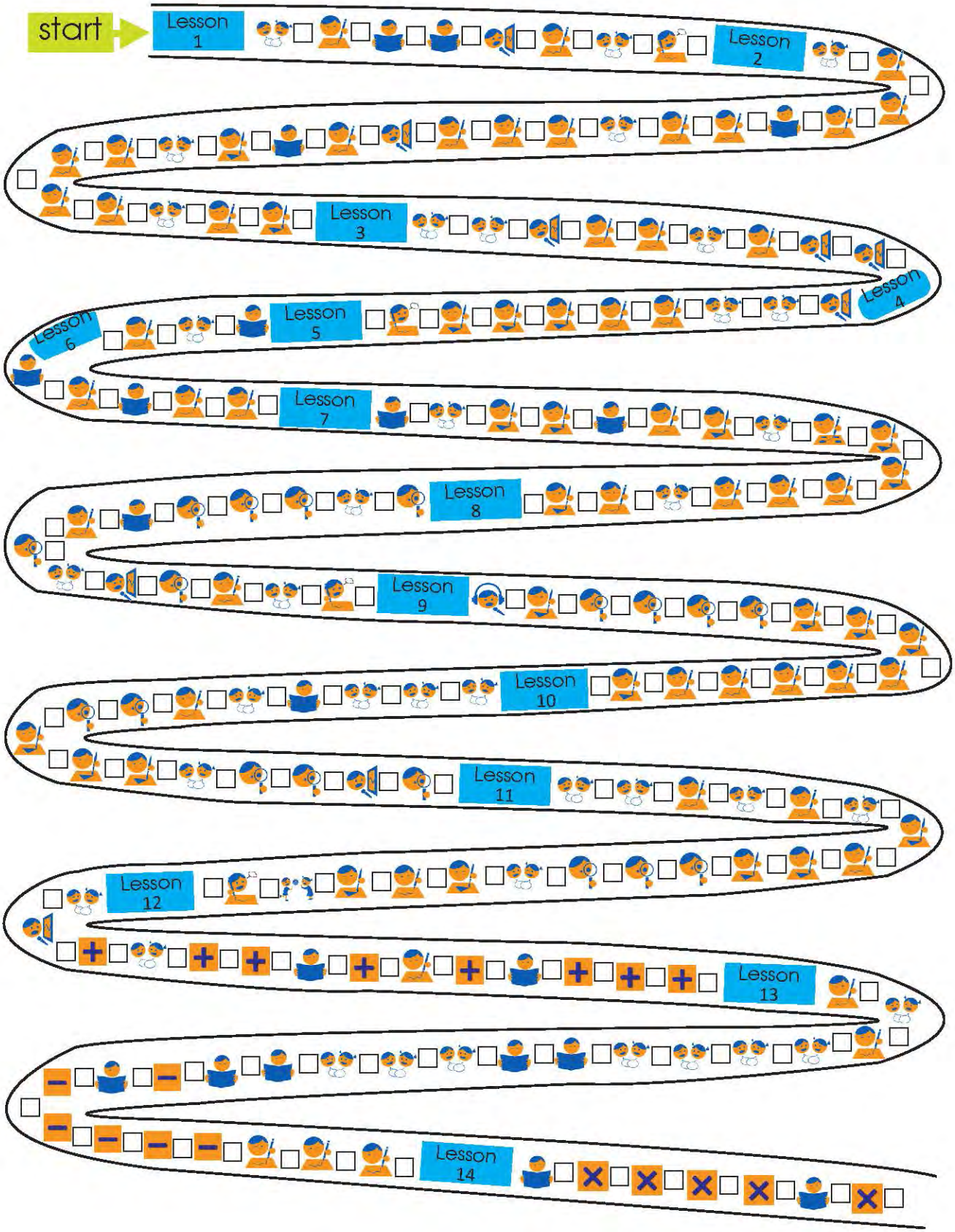
Sn	Estimated area of rectangle	Actual area of rectangle	difference
1.			
2.			
3.			
4.			
5.			
6.			
7.			

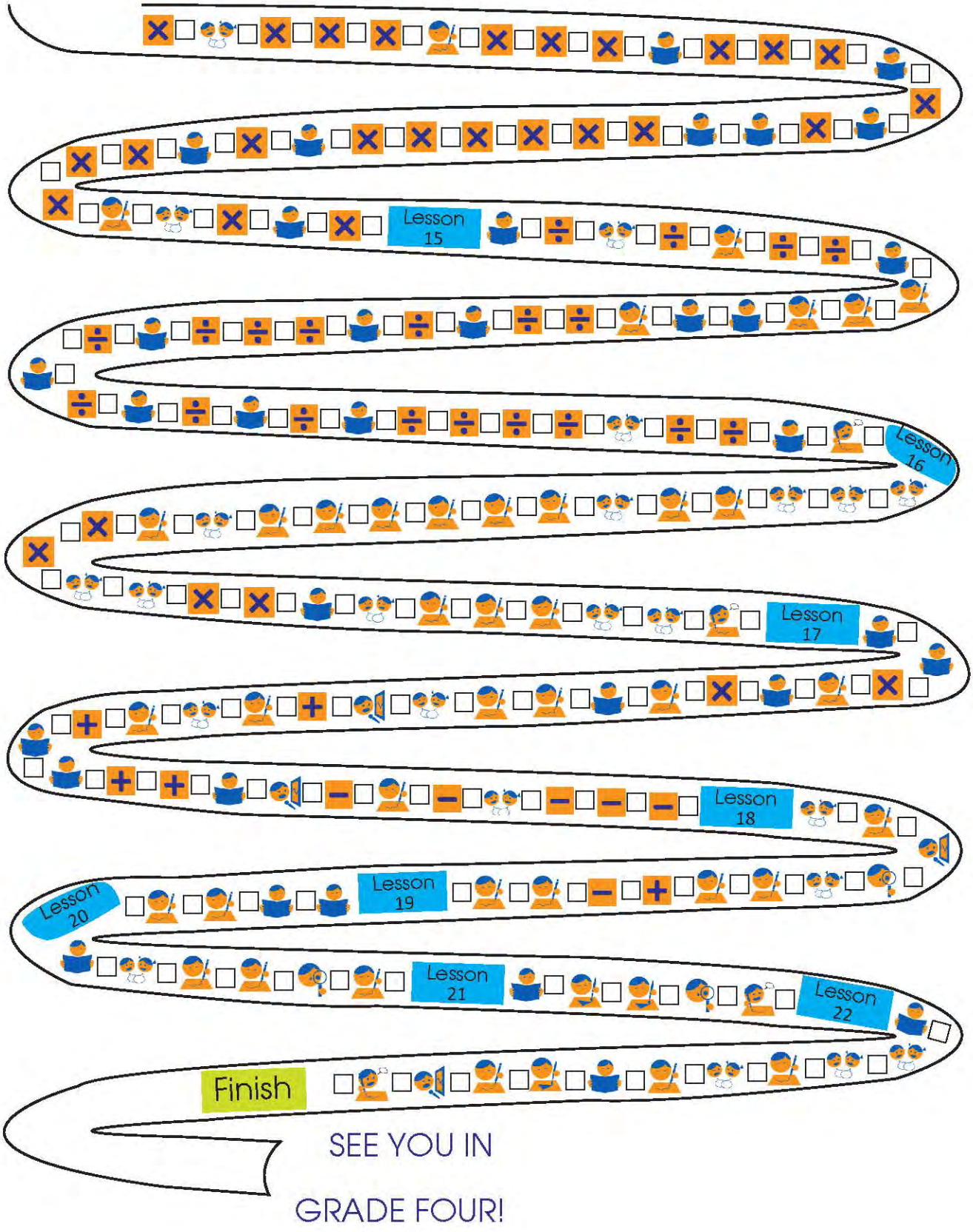
Teacher's signature

Parent's signature

Learning ladder

Check ..... the box on the day you completed the activity.




Lesson 15
Lesson 16
Lesson 17
Lesson 18
Lesson 19
Lesson 20
Lesson 21
Lesson 22
Finish
SEE YOU IN
GRADE FOUR!