MATHS MELA

Textbook of Mathematics for Grade 5

Part - II

@KTBS NOT TO BE REPUBLISHED



विद्यया ऽमृतमश्नुते
एन सी ई आर टी
NCERT

राष्ट्रीय शैक्षिक अनुसंधान और प्रशिक्षण परिषद्
NATIONAL COUNCIL OF EDUCATIONAL RESEARCH AND TRAINING

Contents

Chapter 8: Weight and Capacity	01
Chapter 9: Coconut Farm	16
Chapter 10: Symmetrical Designs	33
Chapter 11: Grandmother's Quilt	39
Chapter 12: Racing Seconds	52
Chapter 13: Animal Jumps	61
Chapter 14: Maps and Locations	68
Chapter 15: Data Through Pictures	76
Learning Material Sheets	87

@KTBS NOT TO BE REPUBLISHED

Chapter 8

Weight and Capacity

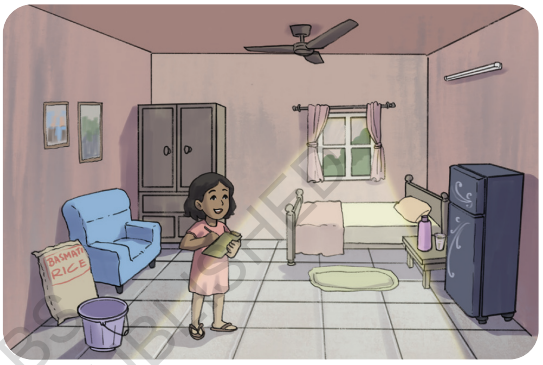
0533CH08



Check! Check!

Anu has recorded the weights of the items in her house. Check if she has recorded them correctly by putting a tick against them if they look correct.

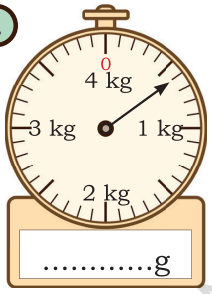
1. Iron Almirah – 40 g ☐
2. Bed – 60 kg ☐
3. Rice Bag – 5 kg ☐
4. Sofa – 30 g ☐
5. Bucket – 1 kg 800 g ☐
6. Water Bottle – 650 g ☐
7. Refrigerator – 50 g ☐



Let Us Do

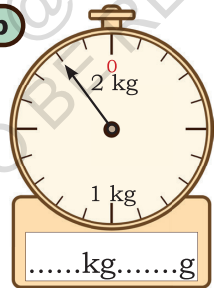
Read the scales. Write the correct weight in the space given below.

a



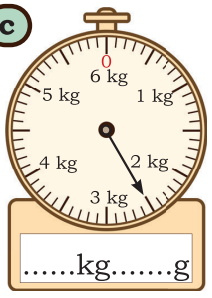
.....g

b



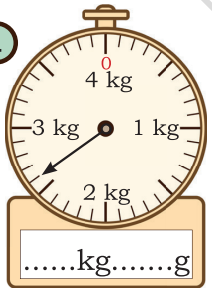
.....kg.....g

c



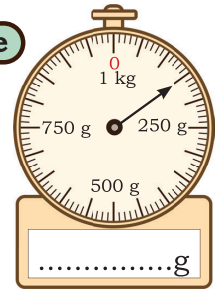
.....kg.....g

d



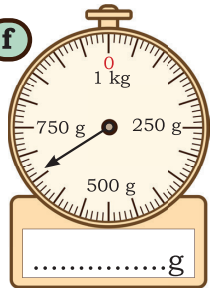
.....kg.....g

e



.....g

f



.....g

Note for Teachers: The learners should be capable of reading various types of weighing scales in different settings for measuring weights of different objects. Help learners to make sense of each of the scales and make them understand how the '0' works in each scale.

NOT TO BE REPUBLISHED @KTBS

Different Units but Same Measure

Bags are weighed on two different weighing balances. One weighing balance displays weight in kilograms and other displays weight in grams.

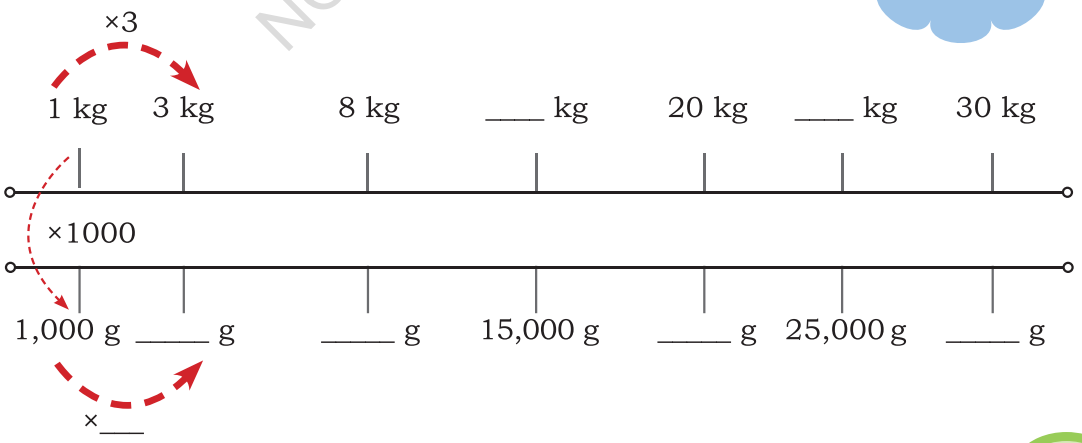




Match the bags that have the same weights. You can use the double number line given below.

Weighing Balance 1	*Weighing Balance 2*
5 kg	3,000 g
10 kg	6,000 g
3 kg	10,000 g
6 kg	30,000 g
25 kg	5,000 g
30 kg	25,000 g

Notice the relationship between kg and g.



@KTBS NOT TO BE REPUBLISHED

Let Us Find

Shrenu is baking cakes for her shop. She needs 3 kg 500 g flour. Her kitchen scale measures only in grams. What should her kitchen scale show for 3 kg 500 g of flour?



3 kg = 3,000 g
3 kg 500 g = 3,500 g



What would be 2 kg 250 g flour in grams?

2 kg = 2,000 g
2 kg 250 g = 2,250 g



Let Us Find

1. Shamim and Rehan observed someone buying sugar weighing 5 kg 50 g. They thought of the quantity in grams. How much is it?



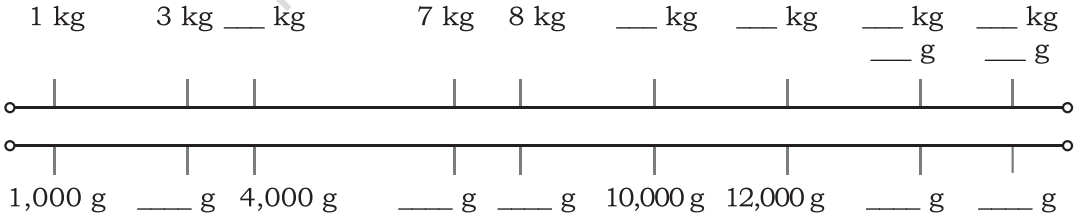
5,050 g

No, it is 5,500 g



Who do you think is right and why?

2. Complete the conversions by filling in the blanks. You can use the double number line given below on which some numbers have been marked.



(a) 7 kg 67 g = _____ g

(b) 3 kg 300 g = _____ g

(c) 8 kg 69 g = _____ g

(d) 10,760 g = _____ kg ____ g

(e) 4,080 g = _____ kg ____ g

(f) 12,042 g = _____ kg ____ g

@KTBS NOT TO BE REPUBLISHED

Chapter-8 Weight & Capacity.indd 106 7/2/2025 6:09:42 PM

Comparison between Different Weights

1. Harpreet's family planned a picnic over the weekend. Her mother and father packed different food items to take along. The following is the list of fruits they carried.

Watermelon	– 3 kg
Pineapple	– 1 kg 750 g
Apples	– 1 kg 250 g
Mangoes	– 2 kg



Among the fruits they carried, which one has the

(a) highest weight? _____

(b) least weight? _____

(c) Arrange the items in descending order of their weight.

_____ _____ _____ _____

2. Compare the weights using <, =, > signs.

(a) 1 kg 600 g	_____	1,700 g
(b) 1 kg 600 g	_____	1 kg 60 g
(c) 10 kg 35 g	_____	10035 g
(d) 1 kg 600 g	_____	2 kg 500 g
(e) 5 kg 50 g	_____	4 kg 500 g
(f) 900 g + 7,000 g	_____	7 kg + 900 g

© KTBS NOT TO BE REPUBLISHED

Milligram

How much weight can an ant carry?

How much does an ant weigh?



Ants weigh between 1 milligram and 5 milligrams. They can carry a lot more weight than their own weight.



What is a milligram?

1 g = 1,000 milligram (mg)

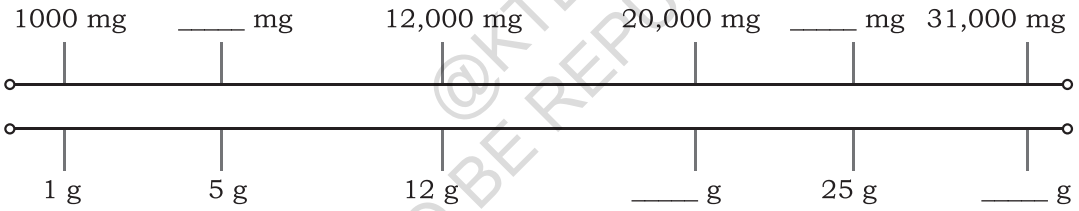


Let Us Find

1. If a sugar sachet weighs 5g, how much will it be in milligrams?



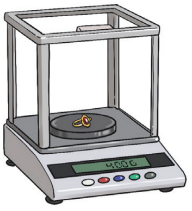
2. Complete the double number line below appropriately.



3. An ornament weighs 4 g 100 mg. What will be the weight in milligrams?



Converting **g** to **mg** is similar to converting kg to g.
4 g = 4,000 mg
4 g 100 mg = 4,100 mg



4. A goldsmith has made an ornament weighing 10 g 500 mg. What will its weight be in milligrams? _____

Note for Teachers: Discuss objects that are light and measured in milligrams (mg), like ingredients in medicine, gold ornaments, etc. Encourage the learners to explore and find similar objects around them.

©KTBS NOT TO BE REPUBLISHED

Chapter-8 Weight & Capacity.indd 108 7/2/2025 6:09:43 PM

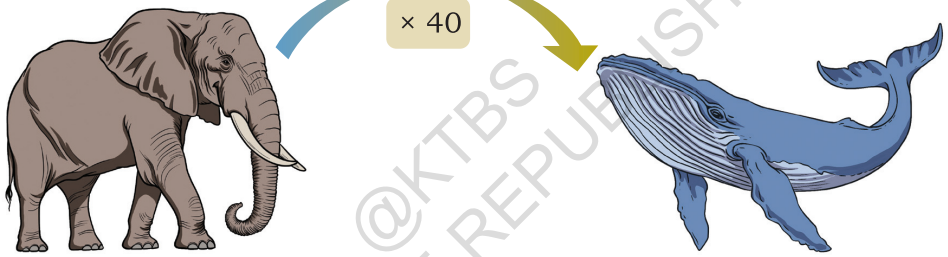
5. Compare the weights using <, =, > signs.

(a) 20 g	_____	200 mg
(b) 16 g 50 mg	_____	50 g 16 mg
(c) 2,010 mg	_____	2 g 100 mg
(d) 9,000 mg	_____	90 g
(e) 5,000 g	_____	7,500 g
(f) 800 mg + 88 mg	_____	880 mg + 8 mg

Did you know?

100 kg = 1 quintal
10 quintals = 1 tonne → 1,000 kg = 1 tonne

6. Observe the pictures given below and fill in the blanks.



5,000 kg

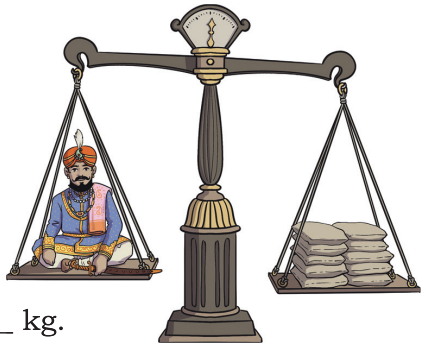
..... kg

@KTBS NOT TO BE REPUBLISHED

7. Answer the following questions.

(a) 5,000 kg = _____ quintals = _____ tonne
(b) 9,000 kg = _____ quintals
(c) _____ kg = 8 tonnes

King's Weight



In a kingdom, the king donates wheat grains equal to 10 times his weight on his birthday.

(a) If he donates 800 kg of wheat grain this birthday, what is his current weight? _____ kg.

(b) If he had donated 780 kg of wheat grain on his last birthday, what was his weight last year? _____ kg.

(c) How much weight did he gain in a year until this birthday?_____ kg.

From Tiny to Big

1,000 mg = 1 g
1,000 g = 1 kg
100 kg = 1 quintal
10 quintals = 1 tonne

The Grocery Store

Rathna went to the local grocery store and bought several items.

She bought 2 kg 500 g rice for daily use and 1 kg 750 g additional rice for the upcoming Pongal festival. How much total rice did she buy?



I can think like this
2 kg 500 g + 1 kg 750 g
= 3 kg + 500 g + 750 g.
500 g + 750 g
= 500 g + 500 g + 250 g
= 1 kg + 250 g
So, total rice bought is 4 kg 250.

	kg	g	
	(1)		
	2	5 0 0	
+	1	7 5 0	
	4	1 2 5 0	

We can add and subtract like quantities.

1,000 g = 1 kg

		Grams			
	(1)				
	2	5	0	0	
+	1	7	5	0	
	4	1 2	5	0	= 4 kg 250 g

We can also convert the quantities into grams.
2,500 g + 1,750 g

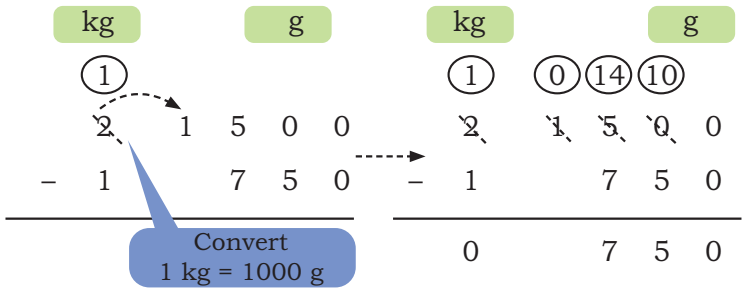
@KTBS NOT TO BE REPUBLISHED

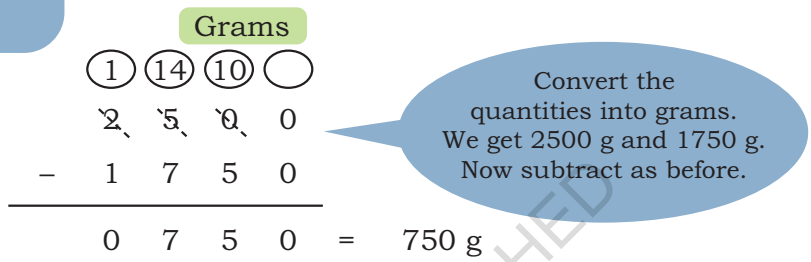
How much extra rice did she buy for household use than for the Pongal festival?

Note for Teachers: Please note that three different ways have been suggested above for adding and subtracting weights. The need for these different strategies arises depending on the numbers used. If the numbers are 250, 500, 750 or even 200, 400, 500, etc., we can add and subtract numbers orally. In fact, we should encourage these mental strategies to be able to use mathematics for daily life problem-solving. When numbers are not amenable to such oral calculations, the learners can choose one of the column strategies provided here, based on their comfort. Help learners observe the similarity between subtraction of numbers and subtraction of quantities like weights.

Chapter-8 Weight & Capacity.indd 110 7/2/2025 6:09:44 PM

I can also think like this.
We have to do
2 kg 500 g – 1 kg 750 g.
Take away 500 g from
2 kg 500g.
We get 2 kg.
Take away 1 kg from
2 kg. We get 1 kg.
Now, take away 250 g.
We get 750 g.





Let Us Do

1. A restaurant owner uses 5 kg 200 g, 8 kg 900 g, and 12 kg 600 g of onions over 3 days. What is the total weight of onions used by the restaurant owner in 3 days?
2. Aarav is helping his grandfather at the fruit stall. He lifts two baskets of apples weighing 2 kg 100 g and 3 kg 950 g. What is the total weight of apples he lifted?
3. 4 kg 500 g of sand is used from a sack weighing 10 kg. How much sand is left in the sack?
4. A rice sack weighs 9 kg 750 g. After some rice is used, it weighs 3 kg 700 g. How much rice was used?
5. A delivery truck delivered 17 kg 900 g of supplies in the morning and 12 kg 700g in the afternoon. How much total supplies did it deliver?
6. A box of books weighs 14 kg 750 g. After removing some books, the weight of the box is 10 kg 500 g. What is the weight of the books removed?
7. In a community kitchen of a Gurdwara, 65 kg of flour was purchased on one day. Out of this, 42 kg 275 g flour was used for preparing langar. The next day, an additional 52 kg 500 g of flour was bought. What is the total quantity of flour now available in the kitchen store?

© NCERT not to be republished

Chapter-8 Weight & Capacity.indd 111 7/2/2025 6:09:44 PM

More Operations on Weight

1. A farmer weighs a sack of potatoes and finds it to be 10 kg 500 g. If the farmer has 4 such potato sacks, what is the total weight of all the sacks?

   4 × 10 kg 500 g
   = 4 ×10 kg and 4 × 500 g
   = 40 kg + 2000 g
   = 40 kg + 2 kg = 42 kg.

You can find the product by multiplying the kg and g separately and adding the two. You can also convert the quantity into grams and then multiply.

2. A box of nuts weighing 4 kg 800 g is equally distributed into 4 smaller boxes. What is the weight of each small box in grams?

   4 kg ÷ 4 = 1 kg
   800 g ÷ 4 = 200 g
   So, 4 kg 800 g ÷ 4 = 1 kg 200 g

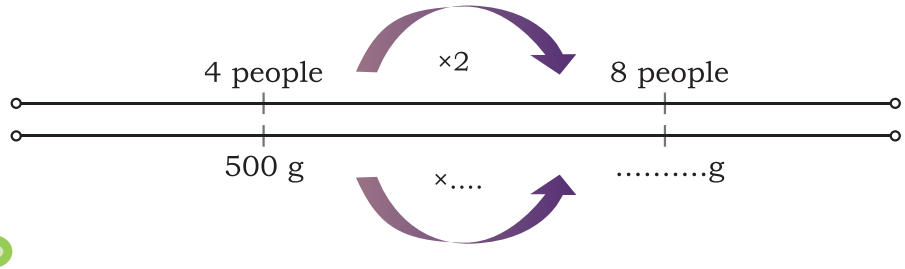
We can also convert the quantity into grams and divide
4800 ÷ 4 = ?

Let Us Do

1. The cost of some grocery items is given in the following table. Find the total cost of each item.

Item	Weight	Cost of 1 kg	Total cost
Rice	12 kg 500 g	₹ 60	
Flour	7 kg 250 g	₹ 40	
Sugar	5 kg	₹ 45	
Chana dal	3 kg 600 g	₹ 70	
Besan	4 kg	₹ 60	
Jaggery	1 kg 400 g	₹ 50	

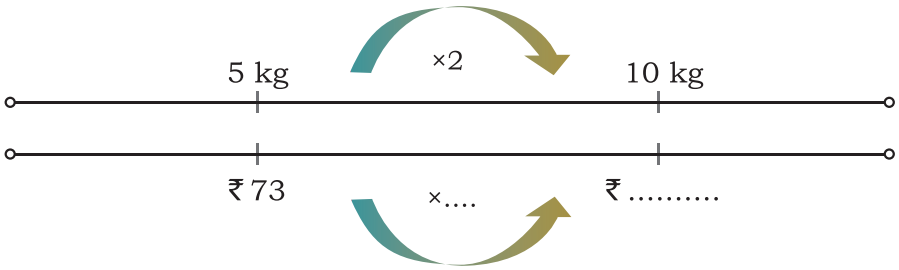
2. 4 people need 500 g rice for a meal. How much rice will be needed for 8 people if they eat similar quantity of rice?



© KTBS NOT TO BE REPUBLISHED

Chapter-8 Weight & Capacity.indd 112 7/2/2025 6:09:44 PM

3. 5 kg of tomatoes cost ₹ 73. How much will 10 kg of tomatoes cost?



4. Nitesh is a scrap dealer. How much would he have paid for
   (a) 16 kg of old newspaper, if he paid ₹ 8 for every 1 kg of newspaper?
   (b) 20 kg iron, if he paid ₹ 200 for every 10 kg of iron?
   (c) 10 kg plastic, if he paid ₹ 30 for 5 kg of plastic?

   Make double number lines for answering (b) and (c).



Measuring Capacity

1. You must have seen tea being prepared at your home. How much water and milk do we need to make 2 cups of tea?

   Do we need 1 *l* of water to make 2 cups of tea?

   Is 500 *ml* of water enough for 2 cups of tea?

2. A bucket can hold a maximum of 20 *ml* of water. Is this statement correct? Which unit should be used in such a situation?

Big to Small, Small to Big

1. Ramiz brings a 500 ml water bottle to school. He drinks two bottles at school. How much water does he drink at school?

   Ramiz drinks _____ *ml* + _____ *ml* = _____ *ml*.

   Ramiz drinks ____ *l* of water in a day.

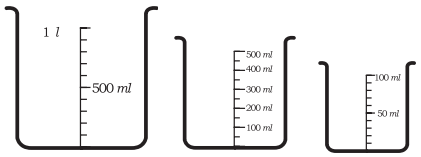
2. Muskaan drinks 3 *l* of water in a day. How many times would she need to refill a 500 *ml* water bottle? _____.

   Muskaan drinks _____ *ml* of water in a day.

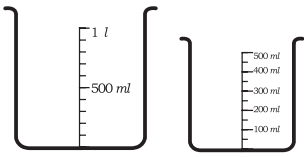
@KTBS NOT TO BE REPUBLISHED

Chapter-8 Weight & Capacity.indd 113 7/2/2025 6:09:44 PM

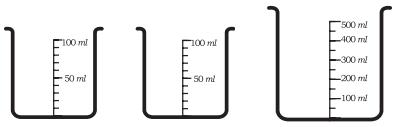
3. Write the total capacity of the following containers in each blank.



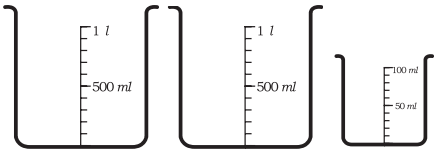
_____ *l* _____ *ml*



_____ *l* _____ *ml*



_____ *l* _____ *ml*



_____ *l* _____ *ml*

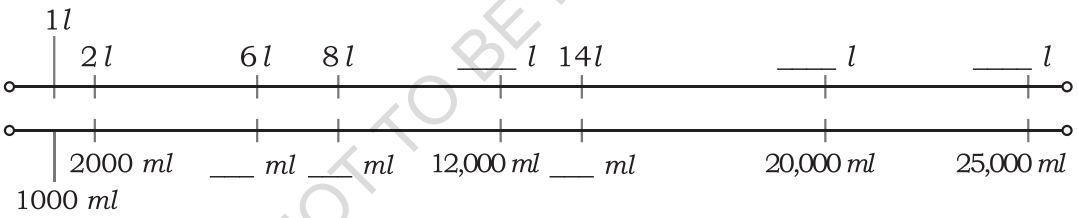
Different Units but Same Measure

The Milkman's Delivery



Khayal *chacha* delivers fresh cow milk to homes. Bhalerao's family orders 2*l* of milk everyday.

This family has a vessel marked in *ml* only. What mark will you see in the vessel corresponding to 2*l*?



Khayal *chacha* delivers the following amounts of milk each week to different families.

Family	Milk Delivered in a Week in *l*	Quantity in *ml*
Arora's	8	
Nair's	14	
Shrivastava's		12,000
Das's		20,000
Rao's		25,000

© KTDS NOT TO BE REPUBLISHED

Chapter-8 Weight & Capacity.indd 114 7/2/2025 6:09:44 PM

Dev's family needs 1 *l* milk every day. On Sunday, they need 500 *ml* more.

Quantity of milk they need on Sunday = 1 *l* + 500 *ml*

= 1,000 *ml* + 500 *ml* = 1,500 *ml*.

Let Us Think

1. Mary and Daisy filled their bottle with 1*l* 400 *ml* of water. They wondered about the capacity of the bottle in *ml*. How much is it?



Who do you think is correct and why?

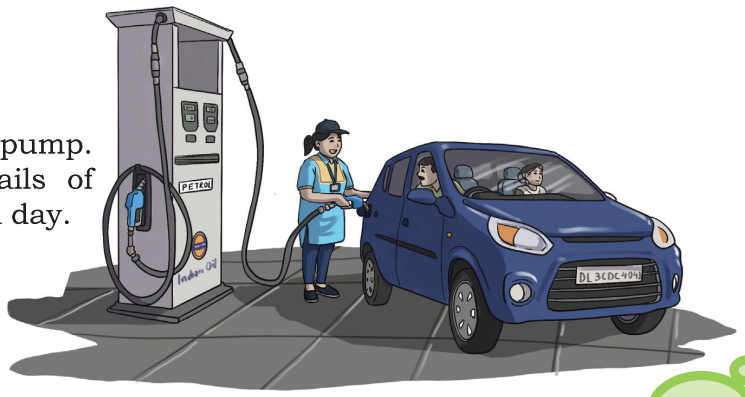
2. Convert and fill in the blanks appropriately. You can use the double number line given earlier.

(a) 3 *l* 8 *ml* = _____*ml* (b) 9 *l* 90 *ml* = _____ *ml* (c) 14,075 *ml* = ____*l*____*ml*

(d) 8 *l* 86 *ml* = ____ *ml* (e) 12,200 ml = ____*l*_____*ml* (f) 18,350 ml = ____*l*____*ml*

Let Us Compare

1. Kiran owns a petrol pump. She records the details of the sales of petrol in a day.



©KTBS NOT TO BE REPUBLISHED

2.

Vehicle	No. of Vehicles	Quantity of Fuel in Each Vehicle (in litres)	Total Quantity of Fuel (in litres)
Truck	3	500	
Bus	6	300	
Car	10	50	
Auto Rickshaw	12	8	
Two-wheeler	25	5	

(a) How much more fuel is bought for buses than for trucks?

(b) What is the total quantity of fuel filled from the petrol pump on that day?

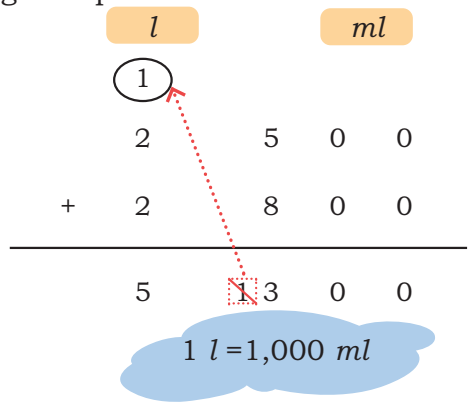
3. Compare the following quantities using the signs <, =, >.

(a) 5 *l* 600 *ml*	_____	5,400 *ml*
(b) 10 *l* 100 *ml*	_____	1 *l* 600 *ml*
(c) 190 *ml* + 800 *ml*	_____	800 *ml* +109 *ml*
(d) 3 *l* 600 *ml*	_____	3,600 *ml*
(e) 4 *l* 50 *ml*	_____	4 *l* 500 *ml*

4. Sam and Tina fill petrol in their bikes. Tina bought 2 *l* 500 *ml* of petrol. Sam bought 2 *l* 800 *ml* more petrol than Tina. How much petrol did Sam buy?

Sam found the quantity of petrol by adding like quantities.

2 *l* 500 *ml* + 2 *l* 800 *ml*
= 2 *l* + 2 *l* and 500 *ml* + 800 *ml*
= 4 *l* and 1,300 *ml*
= 4 *l* and 1 *l* and 300 *ml*
= 5 *l* 300 *ml*.



@KTBS NOT TO BE REPUBLISHED

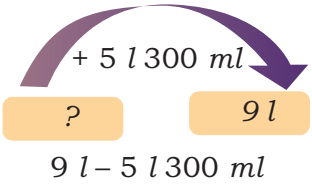
Tina converted the quantities into *ml*, that is, 2,500 *ml* and 2,800 *ml*.

	1			*ml*
	2	5	0	0
+	2	8	0	0
	5	13	0	0

Total quantity of petrol bought by Sam = 2,500 *ml* + 2,800 *ml* = 5,300 *ml* = 5 *l* 300 *ml*.

After refueling, Sam found his fuel gauge reading 9 *l*. How much fuel did his bike have before refueling?

Quantity of fuel Sam's bike had before refueling is–



9 *l* – 5 *l* 300 *ml*

Convert 1 *l* = 1,000 *ml*.

	l		*ml*		
	8		10		
	~~9~~		0	0	0
–	5		3	0	0
	3		7	0	0

We can do this by converting both the quantities in *ml* also, 9,000 *ml* – 5,300 *ml*.

@KTBS NOT TO BE REPUBLISHED

Sam's bike had 3 *l* 700 *ml* of fuel before refuelling.

Note for Teachers: Explain the addition and subtraction algorithm as was done in the case of weight. Encourage the learners to choose the strategy they are comfortable with. Teachers can create several more problems like this. To help learners master such problem-solving, choose numbers mindfully—preferably multiples of 10, 100, or 1000.

Chapter-8 Weight & Capacity.indd 117 7/2/2025 6:09:45 PM

Let Us Solve

1. Riya is filling water bottles for a picnic. She fills one 2 *l* bottle and four 500 *ml* bottles. Her friend, Aarav fills three 750 *ml* bottles. Who filled more water, Riya or Aarav? How much more?

2. A bottle of milk is poured equally into 8 glasses, leaving 120 *ml* of milk in the bottle.

   (a) If each glass has a capacity of 360 *ml*, what is the total capacity of 8 glasses?

   (b) How much milk was there in the bottle initially?

   (c) If 1 *l* of milk costs ₹ 40, how much will 3 *l* milk cost?

3. A juice vendor has a 5 *l* container of orange juice. Each glass has a capacity 250 *ml*.

   (a) How many full glasses can he serve before the container becomes empty?

   (b) If he has already served 10 glasses, how much juice is left?

   (c) If 250 *ml* of juice is sold at ₹ 25, how much will he earn by selling 5 *l* juice?

4. In a factory, 8 *l* 400 *ml* of oil needs to be equally poured into 7 containers for storage. How much oil will each container hold?

5. If one container can hold 1 *l* 75 *ml* of buttermilk, how much buttermilk will be there in 8 such containers?

Use the double number line whenever needed to solve such problems.

© KTBS NOT TO BE REPUBLISHED

Chapter-8 Weight & Capacity.indd 118 7/2/2025 6:09:45 PM

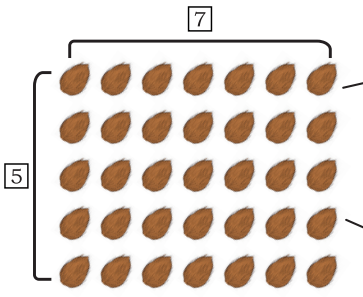
Chapter 9

Coconut Farm

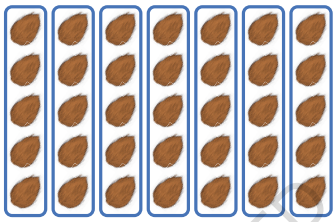
0533CH09



Observe the following array of coconuts. Write two division facts using the given multiplication fact.

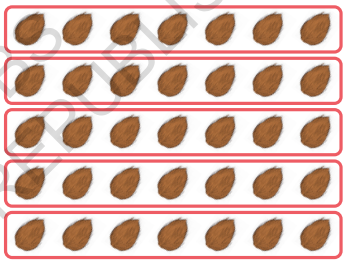


5 × 7 = 35



35 ÷ 7 = 5

35 split into 7 groups has 5 in each group.



35 ÷ 5 = 7

35 split into 5 groups has 7 in each group.



Think and answer

35 ÷ 1 = _____

Division Facts

5 × 7 = 35

35 ÷ 5 = 7

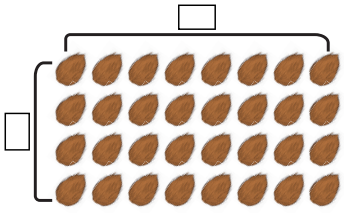
35 ÷ 7 = 5

Dividend (N) Divisor (D) Quotient (Q)

Notice!

Dividend (N) = Divisor (D) × Quotient (Q)

Write the appropriate multiplication fact for the array shown below. Write two division facts that follow from the multiplication fact.



_____ × _____ = _____

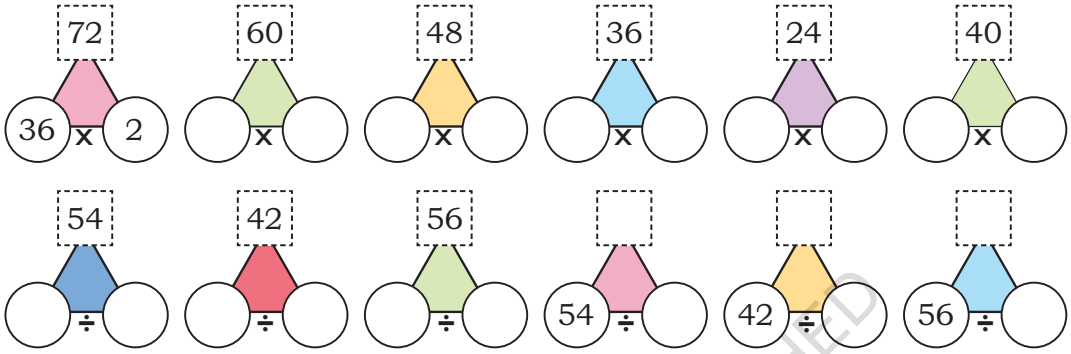
_____ ÷ _____ = _____

_____ ÷ _____ = _____

© KTBS NOT TO BE REPUBLISHED

Let Us Play

Identify the numbers that can fill the circles such that the numbers in the squares are the products or the quotients of the numbers in the circles.



Let Us Do

1. Solve the following multiplication problems. Write two division statements in each case.

30 × 30 = _____

_____ ÷ _____ = _____

_____ ÷ _____ = _____

15 × 60 = _____

_____

_____

400 × 8 = _____

_____

_____

200 × 16 = _____

_____

_____

Observe the relationship between the divisor, dividend, and quotient.

Note for Teachers: Encourage the learners to recognise the connection between multiplication and division. Help them observe that every multiplication statement can lead to two related division statements. Help them notice the relationship between the number, divisor, and quotient. Provide opportunities to practice multiplication tables through games and puzzles like the ones above.

@KTBS NOT TO BE REPUBLISHED

Chapter-9 Coconut Farm.indd 120 7/2/2025 6:28:23 PM

2. Solve the following division problems. Notice the patterns and discuss in class.

How many 3s in 150?

____ × 3 = 150

5 × _____ = 500

150 ÷ 3 = _____	80 ÷ 4 = _____	500 ÷ 5 = _____
100 ÷ 10 = _____	300 ÷ 100 = _____	500 ÷ 50 = _____
200 ÷ 20 = _____	440 ÷ 44 = _____	630 ÷ 63 = _____

44 × __ = 440

Patterns in Division and Place Value

10 × _____ = 1000

37 × _____ = 3700

1000 ÷ 10 = _____	1000 ÷ 100 = _____	1600 ÷ 4 = _____
2000 ÷ 2 = _____	2000 ÷ 20 = _____	3700 ÷ 37 = _____
3300 ÷ 3 = _____	3300 ÷ 300 = _____	4000 ÷ 40 = _____

@KTES NOT TO BE REPUBLISHED

Now fill the place value chart.

Problem	H	T	O
40 ÷ 10 =			4
400 ÷ 10 =		4	0
4000 ÷ 10 =	4	0	0
700 ÷ 70 =			
1400 ÷ 100 =			
220 ÷ 20 =			
2200 ÷ 20 =			

What is happening to the quotients in each case? Discuss.

What patterns do you notice here?

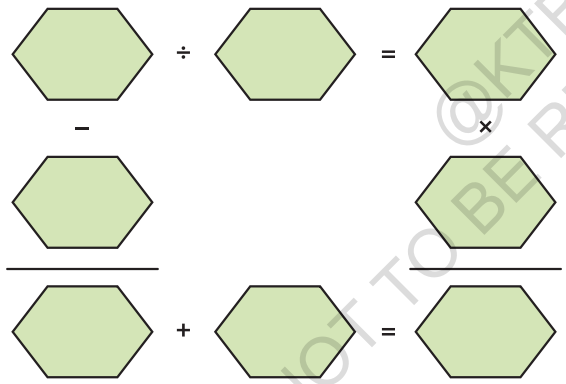
Problem	H	T	O
110 ÷ 11 =			
860 ÷ 86 =			
7500 ÷ 750 =			
8800 ÷ 88 =			
2400 ÷ 24 =			
440 ÷ 22 =			

Chapter-9 Coconut Farm.indd 121 7/2/2025 6:28:23 PM

Let Us Do

1. Sabina cycles 160 km in 20 days and the same distance each day. How many kilometres does she cycle each day?
2. How many notes of ₹100 does Seema need to carry if she wants to buy coconuts worth ₹4200?
3. The owner of an electric store has decided to distribute ₹5500 equally amongst 5 of his employees as a Diwali gift. What amount will each employee get?

   What will happen if he distributes the same amount of money among 10 employees? Will each employee get more or less? How much money would he have to distribute if everyone must get the same amount as earlier?
4. Place the numbers 1 to 8 in the following boxes so that all the four operations, division, multiplication, addition and subtraction are correct. No number must be repeated.



How did you think about solving this?

Is there more than one answer?

5. Fill in the blanks

(a) _____ ÷ 18 = 100.	(e) 870 ÷ _____ = 87.
(b) _____ ÷ 10 = 610.	(f) _____ ÷ 100 = 70.
(c) _____ ÷ 100 = 72.	(g) 200 ÷ _____ = 2.
(d) _____ ÷ 100 = 10.	(h) 130 ÷ _____ = 13.

Note for Teachers: Encourage learners to notice relationships between simple multiplication facts and multiples of tens and hundreds in division problems like the above.

@KTBS NOT TO BE REPUBLISHED

Chapter-9 Coconut Farm.indd 122 7/2/2025 6:28:23 PM

Mental Strategies for Division

Observe the division carefully.



I can split the number into convenient parts.

1. **1248 ÷ 6**
   1248 = 1200 + 48
   I know 1200 ÷ 6 = 200
   and 48 ÷ 6 = 8
   So, 1248 ÷ 6 = 200 + 8 = 208.



I can do it in a different way.

2. **1992 ÷ 4**
   1992 = 2000 – 8
   2000 ÷ 4 = 500
   8 ÷ 4 = 2
   So, 1992 ÷ 4 = 500 – 2 = 498.



Can you give 5 such examples where you can split the number conveniently?

For which other divisors and dividend might this strategy of repeated halving work?

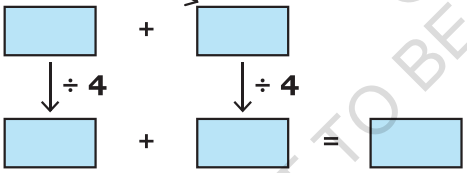


3. 128 ÷ 4
   To divide by 4, I can halve twice.
   Half of 128 is 64.
   Half of 64 is 32.

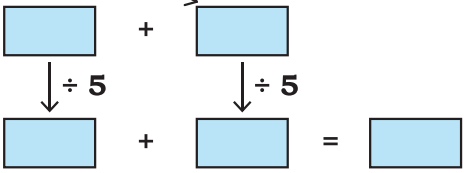
@KTBS NOT TO BE REPUBLISHED

Try It!

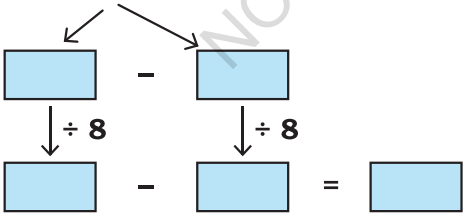
1. 64 ÷ 4



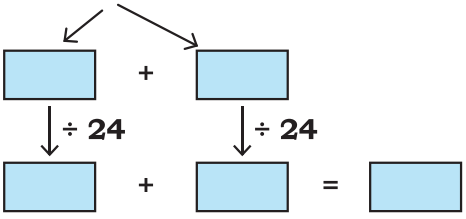
2. 265 ÷ 5



3. 1560 ÷ 8



4. 4824 ÷ 24



5. 168 ÷ 8 → Halve 168 → ☐ → Halve ____ → ☐ → Halve ____ → ☐

6. 144 ÷ 4 → Halve 144 → ☐ → Halve ____ → ☐

Chapter-9 Coconut Farm.indd 123 7/2/2025 6:28:27 PM

Let Us Solve

Solve the following problems using strategies used in the previous question.

(a)	256 ÷ 4	(c)	147 ÷ 7	(e)	648 ÷ 12	(g)	775 ÷ 25
(b)	545 ÷ 5	(d)	1212 ÷ 6	(f)	9648 ÷ 48	(h)	796 ÷ 4

Susie's Farm in Kerala



1. Susie and Sunitha have a large coconut farm and they have harvested 1,117 coconuts in April.

   They sold 582 coconuts equally to 6 regular customers. How many coconuts did each customer get?

   They sold 582 ÷ 6 coconuts to each customer.

@KTBS NOT TO BE REPUBLISHED

```
6) 582 (20+20+20+20+10+7
  -120
  ----
   462
  -120
  ----
   342
  -120
  ----
   222
  -120
  ----
   102
   -60
  ----
    42
   -42
  ----
    00
```

Susie's solution

Estimate the answer first. Do you realise that each customer will likely get less than 100 coconuts?

```
      9  7
   ┌──────
6) 582 (90 + 7
  -540
  ----
    42
   -42
  ----
    00
```

Sunitha says she has a better way to do this

Each customer gets 97 coconuts.

Do you think Sunitha's method is better? Discuss which one you would prefer and why.

Each bag can hold 25 coconuts. How many bags would be needed to pack 97 coconuts?

3 bags will hold 75 coconuts. They will need another bag to fill the remaining coconuts. So, each person will get 4 bags.

Chapter-9 Coconut Farm.indd 124 7/2/2025 6:28:27 PM

2. They pack the remaining coconuts for drying and extracting oil. They can pack 25 coconuts in each bag. How many bags will they need to pack the remaining coconuts?



The number of coconuts left after selling 582 coconuts, is 1117 – 582 = 535.

The number of bags needed is 535 ÷ 25.

Guess the number of bags needed. Use the strategies learnt.

```
        2 1
      ┌
25) 535 (20 + 1
   –500
   ----
     35
    –25
    ---
     10
```

Let us take away maximum groups of 25 in multiples of tens. Can we write 30 here?

Remainder (R)

They need 21 full bags and 1 more bag to pack the 10 remaining coconuts, that is, 22 bags.

Let Us Learn to Divide

726 ÷ 4

```
4) 726 (100 + ____ + ____
  –
  ---
  326
 –320
 ----
    6
  –
  ---
    2
```

Could we have written 200 here?

902 ÷ 16

```
16) 902 (____ + 6
   –800
   ----

  – 96
  ----
     6
```

What should we write here so that we get a number close to 902 but less than it? Could we have multiplied 16 by a larger tens?

@KTBS NOT TO BE REPUBLISHED

Sometimes, the divisor (D) does not completely divide the dividend (N) and leaves a remainder (R). What is the relationship between the dividend (N) and divisor (D), quotient (Q), and remainder (R)? Try to find out!

Is 726 = 4 × 181? Yes/No. So, 726 = 4 × 181 + _____.

Is 902 = 16 × 56? Yes/No. So, 902 = 16 × 56 + _____.

N = D × Q + R

Note for Teachers: Encourage the learners to divide using partial quotients and work like Susie. But we may also push them to choose a more optimal strategy (like Sunitha's) by choosing the multiplier or quotient more carefully to reduce the number of steps. This will help us reach closer to the standard algorithm.

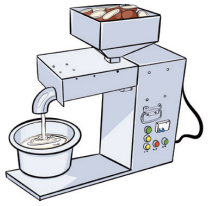
Chapter-9 Coconut Farm.indd 125 7/2/2025 6:28:27 PM

Let Us Solve

Solve the following word problems

1. Rani is planning to host a party. She estimates that 250 guests will attend. She plans to serve one samosa to each guest. Samosas are available in packs of 6 or 8. Which pack should Rani buy? Explain your answer.
2. 342 students from a school are going on a trip to the Science Park. Each bus can carry a maximum of of 41 students. How many buses does the school need to arrange ?
3. Sofia has only ₹50 and ₹20 notes. She needs to pay ₹520 using these notes. How many ₹50 and ₹20 notes does she need to make ₹520? Find out the different possible combinations.
4. Three friends decide to split the money spent on their picnic equally. They buy snacks and sweets for ₹157, juice and fruits for ₹124 and *pulav* and *paratha* for ₹136. How much should each person pay to share the cost equally?
5. Identify the remainder, if any. Check if N = D × Q + R.
   (a) 887 ÷ 3 (d) 767 ÷ 26
   (b) 283 ÷ 8 (e) 530 ÷ 41
   (c) 745 ÷ 5 (f) 888 ÷ 67

Kalpavruksha Coconut Oil



1. In a particular year, Susie and Sunitha used 4376 coconuts for extracting coconut oil. They can extract 1*l* of oil from 8 coconuts. What quantity of oil were they able to extract?

   They would get 4376 ÷ 8 litres of coconut oil.

8) 4376 (200+200+100+40+7

−1600
2776
−1600
1176
− 800
376
−320
56
−56
00

Susie's solution

5 4 7

8) 4376 (500 + 40 + 7

−4000
376
−320
56
−56
00

Sunitha shows her solution again

They extracted 547 *l* of oil in the year.

© KTBS NOT TO BE REPUBLISHED

Chapter-9 Coconut Farm.indd 126 7/2/2025 6:28:27 PM

	H	T	O
	5	4	7
×	1	7	5

How much will they earn if they sell the oil at ₹175 for 1 *l*?
They will earn ₹ 547 × 175. Find out.



2. Coconut husk is used for making coir. Coir is a natural fibre used in gardening, farming, boat making, and making decorative items.



Susie and Sunitha's farm sells coconut husk at ₹23 per kilogram. They earned ₹9913 from the sale of husk in May. What quantity of husk did they sell in May?

The quantity of husk sold in May is 9913 ÷ 23 kg.

Make a guess first.

4 3 1

23) 9913 (400 + 30 + 1
–9200
713
–690
23
–23
00

What would happen if 23 is multiplied by 300 or 500?

Let us take away maximum groups of 23 in multiples of hundreds and tens.

Susie and Sunitha's farm sold 431 kg of coconut husk in May.

3. In the hot summer months, tender coconuts are sold for ₹35. Ibrahim earns ₹8890 in a week. How many tender coconuts did he sell?
The number of tender coconuts sold by Ibrahim is 8890 ÷ 35.

□ 5 □

35) 8890 (____ + 50 + ____
–7000
1890
–____
140
–____
00

Ibrahim sold _____ tender coconuts.

©KTBS NOT TO BE REPUBLISHED

Ibrahim had bought the tender coconuts for ₹20 each. How much extra money did he earn by selling the coconuts at ₹35?

The cost of _____ coconuts at ₹20 each = _____ × ₹ 20 = ₹_____.

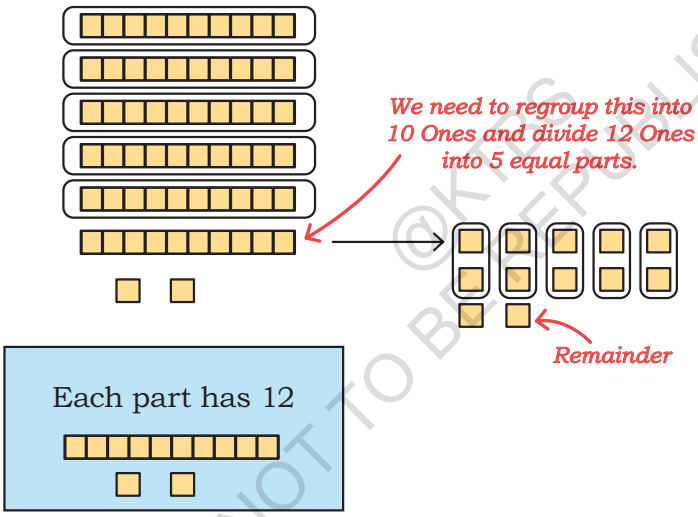
He earned ₹8890 from the sale.

The extra amount he earned is ₹8890 – ₹_____ = ₹_____.

Division Using Place Value

Sunitha's mother has 62 candies to be distributed equally among 5 children. How many candies would each child get? She shows the following way of doing division using place value.

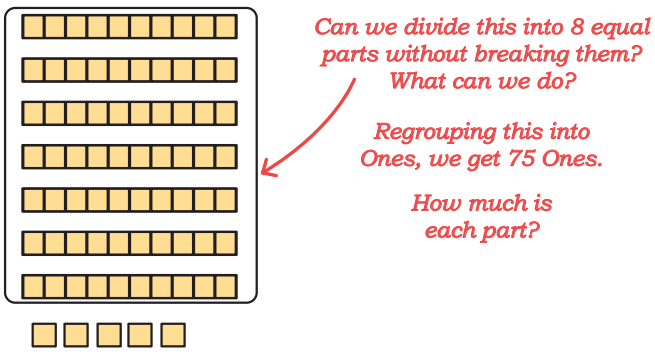
1. 62 ÷ 5 → Divide 62 into 5 equal parts.



	T	O
5)	6	2 (1 2
	–5 ↓	
	1	2 (Ones)
	–1	0
		2

@KTES NOT TO BE REPUBLISHED

2. 75 ÷ 8 → Divide 75 into 8 equal parts.



	T	O
8)	7	5 (0 9
	–7	2 (Ones)
		3

Chapter-9 Coconut Farm.indd 128 7/2/2025 6:28:28 PM

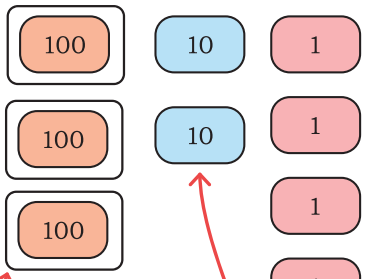
3. 324 ÷ 3 → Divide 324 into 3 equal parts.

324 = 3 Hundreds + 2 Tens + 4 Ones
3 Hundreds ÷ 3 = 1 Hundred.

2 Tens ÷ 3 → Not possible without regrouping, so everyone gets 0 Tens.

Regroup 2 Tens into Ones.
20 Ones + 4 Ones = 24 Ones.

24 Ones ÷ 3 = 8 Ones.



Divide into 3 equal parts

Cannot be divided into 3 equal parts without regrouping. Regroup into Ones.

H T O

```
3) 324 (1   0   8
  -3
   2  (Tens)
  -0
   24 (Ones)
  -24
   00
```

Why do we put a 0 here?



4. 136 ÷ 6 → Divide 136 into 6 equal parts.

136 = 1 Hundred + 3 Tens + 6 Ones.

1 Hundred ÷ 6 → not possible without regrouping into Tens

Regroup 1 Hundred into 10 Tens.

Total 13 Tens. Continue dividing.

H T O

```
6) 136 (0   2   2
  -12  (Tens)
   16 (Ones)
  -12
    4
```

Can you tell just by looking at the divisor and dividend, how many digits the quotient would have? Look at the problems above and find this out. Explain your thoughts.

Note for Teachers: Place-value based division is commonly used by adults. Learners often struggle with long division, especially correctly placing zeros at different positions of the quotient. Encourage students to use place-value based division, but if they find it difficult, they can use the partial quotients method instead which reduces the chances of errors.

@KTBS NOT TO BE REPUBLISHED

Let Us Divide

(a) 7,032 ÷ 6

```
6) 7,032 (1,000 + ____ + 70 + ____
  –
  -------
   1,032
 – 600
  -------
    432
  –
  -------
     12
   –
  -------

     ____
```

7,032 ÷ 6

Th	H	T	O
1	1	7	2

```
6) 7,032 (
 –6↓
 -------
  10   (Thousands)
 – 6↓
 -------
   43  (Hundreds)
 –42↓
 -------
    12 (Tens)
  – 12
 -------
     0
```

(b) 3,005 ÷ 5

```
5) 3,005 ( ____ + ____
 –3,000
 -------
      5
   –
 -------
      0
```

3,005 ÷ 5

Th	H	T	O
			0

```
5) 3,005 ( __ __ 0 __
 –30↓
 -------
   00  (Hundreds)
  –00↓
 -------
    0__ (Tens)
   – 5
 -------
     0
```

Discuss why we have to write this 0 here.

(c) 2,874 ÷ 14

```
14) 2,874 ( ____ + ____
  –2,800
  -------

   –
  -------
```

2,874 ÷ 14

Th	H	T	O

```
14) 2,874 ( __ __ __ __
  –28↓
  -------
        (          )
   –
  -------
     7__ (          )
    –
  -------
```

@KTBS NOT TO BE REPUBLISHED

Chapter-9 Coconut Farm.indd 130 04-07-2025 02:05:04

(d) 9,805 ÷ 32

32) 9,805 (____ + ____

– _____

205

– _____

9,805 ÷ 32

Th	H	T	O

32) 9,805 (__ __ __ __

– _____ (Hundreds)

( )

– _____

( )

– _____

Compare both solutions. Also, remember to put 0 in the right places.

Let Us Do

1. Find the missing numbers such that there is no remainder. Remember, there could be more than one solution.

4) 4 8 0 (□ □ 0	3) 9 0 6 (□ 0 □
20) 4 0 0 (□ 0	50) 1 0 0 □ (□ 0
□) 8 □ 8 (2 1 □	3) □ 3 6 (3 □ □
□) 8 8 (□ □	□) 9 □ 0 (□ □ □
□) 1 8 0 (□ □ □	□) 6,4 8 0 (□ □ □

I am a 3-digit number.
- If you divide me by 5, you get 42.
- If you multiply me by 2, you get 420.

What number am I?.



@KTBS NOT TO BE REPUBLISHED

Let Us Solve

1. A theatre company can accommodate 45 people during one show.
   (a) A total of 475 people bought tickets for a puppet show. How many shows are needed to seat all the people who bought tickets?
   (b) There are 2 shows in a day. How many days will be needed to accomodate all the people?

2. Naina bought 5 kg of ice cream as a birthday treat for her 23 friends. 400 g ice cream was left after everyone had an equal share. How much ice cream did each of her friends eat?

3. Megha packs 15 packets of ragi-oats biscuits for a 4-day group trip. Each packet contains 8 biscuits. There are 6 people in the group. If distributed evenly, how many biscuits can one person have each day.

4. Solve the following and identify the remainder, if any. Check whether N = D × Q + R in each case.

   (a) 9,045 ÷ 5
   (b) 1,034 ÷ 4
   (c) 2,504 ÷ 7
   (d) 8,900 ÷ 15
   (e) 9,876 ÷ 32
   (f) 7,506 ÷ 24

5. Find the solutions for part A. Observe the relations between the quotient, divisor and dividend and use it to answer parts B and C.

A.
(a) 340 ÷ 34 = 10
(b) 340 ÷ 17 = ___
(c) 680 ÷ 17 = ___
(d) 680 ÷ 34 = ___
(e) 170 ÷ 17 = ___
(f) 680 ÷ 68 = ___

B.
(a) 192 ÷ 4 = 48
(b) 192 ÷ 8 = ___
(c) 384 ÷ 8 = ___
(d) 384 ÷ 4 = ___
(e) 384 ÷ 8 = ___
(f) 86 ÷ 2 = ___

C.
(a) 352 ÷ 11 = 32
(b) 704 ÷ 22 = ___
(c) 704 ÷ 11 = ___
(d) 352 ÷ 22 = ___
(e) 1,408 ÷ 44 = ___

©KTBS NOT TO BE REPUBLISHED

Chapter-9 Coconut Farm.indd 132 04-07-2025 12:14:55

6. A company in Mumbai organises cycle rallies from Mumbai to Panjim, Goa every year. They aim to cover 576 km in 12 days.



   (a) How much distance should they cycle every day, to cover the distance evenly?

   (b) After reaching Ratnagiri, they rest for 1 day. How much distance should they cycle each day to reach Goa in 4 days? Assume that they cover the distance evenly.

7. Given below are a few problems. You may need some additional information to solve these. Identify the missing information. Write the missing information and find the answer.

   (a) A fruit vendor sells 6 baskets of mangoes. Each basket contains 12 mangoes. How much did the vendor earn in total?

   (b) A school has 8 classrooms, and each classroom has an equal number of desks. How many desks are there in each classroom?

   (c) Rahul buys 5 cricket bats for his team. The total bill is ₹3500. How much does one bat cost?

   (d) A restaurant serves 125 plates of *idlis* in a day. The total earnings from selling all the *idli* plates is ₹6250. How many *idlis* are there in each plate?

© KTRS NOT TO BE REPUBLISHED

8. To make one bookshelf, a carpenter needs the following things—

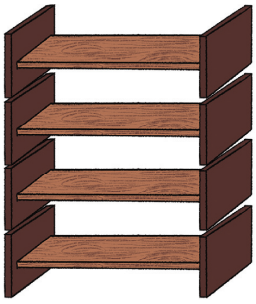
   4 long wooden panels

   8 short wooden panels

   16 small clips

   4 large clips

   32 screws



The carpenter has a stock of 264 long wooden panels, 306 short wooden panels, 2400 small clips, 120 large clips, and 2800 screws. How many bookshelves can the carpenter make? Discuss your thoughts.

Chapter-9 Coconut Farm.indd 133 7/2/2025 6:28:29 PM

Vegetable Market

Munshi Lal has a big farm in Bihar. Every Saturday, he sells the vegetables from his farm at Sundar Sabzi Mandi. *Munshi ji* maintains a detailed record of the quantity of vegetables he sends to the Mandi and the cost of each vegetable. The following table shows his record book on one Saturday.

His naughty grandson has erased some numbers from his record book. Help Munshi Lal complete the table.

S.No.	Vegetable	Cost of 1 kg	Quantity Supplied (in kg)	Total Amount
1.	Radish	₹26	78	₹ _____
2.	Potato	₹20	_____	₹2,240
3.	Cabbage	₹32	56	₹_____
4.	Green peas	_____	125	₹3,125
Total money earned through the sale				_____

What information is recorded in this table?

© KTBS NOT TO BE REPUBLISHED

ACTIVITY

Ask students to collect bills from shops and read them carefully to identify the information recorded. Discuss in class.

Role-play—Students can take turns to be the shopkeeper and issue bills to their customers. Students posing as customers can calculate and pay their bills.

Let Us Solve

Divide the following. Try dividing using place values, whenever you can. Identify the remainder, if any, and check whether N = D × Q + R.

1. 506 ÷ 5
2. 918 ÷ 8
3. 8,126 ÷ 7
4. 9,324 ÷ 4
5. 876 ÷ 6
6. 7,008 ÷ 3
7. 934 ÷ 12
8. 829 ÷ 23
9. 705 ÷ 18
10. 8,704 ÷ 32
11. 6,790 ÷ 45
12. 5,074 ÷ 21

Chapter-9 Coconut Farm.indd 134 04-07-2025 12:15:03

Mathematical Statements

1. Find out whether the following statements are True (T) or False (F). A true sentence is one where both sides of the '=' sign have the same value.
   (a) 8 × 9 = 70 + 2
   (b) 20 – 6 = 7 × 3
   (c) 48 ÷ 3 = 4 × 4
   (d) 89 – 9 = 90 + 0
   (e) 25 + 10 = 45 – 10

2. Complete the following statements such that they are true.
   (a) 7 × 6 = ____ + 17
   (b) 87 + 6 = ____ × 31
   (c) 63 + ____ = 74 – 4
   (d) ____ ÷ 9 = 16 ÷ 2

3. Think about the following statements and find examples as suggested below.
   (a) "When two odd numbers are added, the sum is even."
   Find 5 examples for the above statement. Can you find an example to show that the statement can be false?
   (b) "Multiplying a number by 2 can give an odd number."
   Give some example for this statement. Can you find any? *Always true*
   (c) "Halving a number always leads to an even number."
   Give 3 examples for the statement. Can you find 3 examples when this is not true? *Never true* *Sometimes true*

4. Tick in the appropriate cell for the following statements.

Statement	Always True	Sometimes True	Never True
Adding 10 to a number gives a multiple of ten.			
Changing the order of the numbers in subtraction makes no difference.			
In multiplication, doubling one number and halving the other keeps the product the same.			
Multiplication by an odd number gives an even number.			
Multiplying a number by 5 leads to numbers which have '0' in the Ones place.			

© NCERT NOT TO BE REPUBLISHED

Chapter-9 Coconut Farm.indd 135 7/2/2025 6:28:29 PM

Chapter 10

Symmetrical Designs

0533CH10

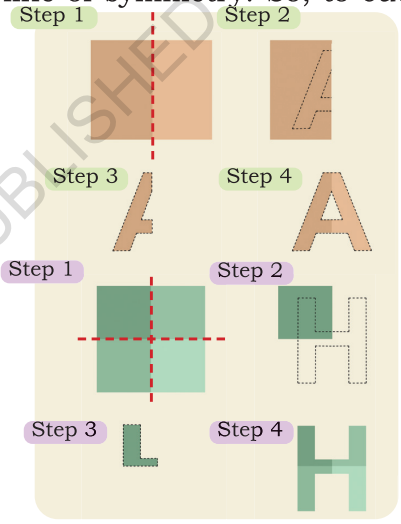


Alphabet Cutout

Prem and Manu want to paste 'Happy Birthday' cutouts on a wall for Lali's birthday. While preparing cutouts of letters, they observe that some letters can be cut out in an easy way.

They remember that they learnt about reflection symmetry and lines of symmetry in Grade 4. They used their knowledge of lines of symmetry to make the cutouts. The letter A has a vertical line of symmetry. So, to cut out the letter 'A'—

1. Fold a paper in half.
2. Draw half of the letter A along the fold.
3. Cut along the outline.
4. Open the paper to see the full letter A.



The letter H has two lines of symmetry.

1. Fold the paper into one-fourth (once vertically, once horizontally).
2. Draw one-fourth of the letter H along the fold.
3. Cut along the outline.
4. Open the paper to see the full letter H.

© NCERT NOT TO BE REPUBLISHED

Which of the following alphabet cutouts can be made by just drawing half ($\frac{1}{2}$) or quarter ($\frac{1}{4}$) of the letter? You can do it by drawing lines of symmetry on the letters.

E N X T K V O

Which of the letters have a horizontal line of symmetry? _____
Which of the letters have a vertical line of symmetry? _____
Which letters have both vertical and horizontal lines of symmetry?_____

Let Us Do

Use lines of symmetry to make paper cutouts of diya, boat, and other designs. Look along the border of the page to find the pictures.

Let Us Make a Windmill *Firki*

Lali makes firkis for her friends. Follow the steps given below to make your own *firki*.

1. Take a square paper.
2. Fold the paper in half diagonally to make two triangles.
3. Open and fold it the other way to make two more triangles.
4. Open it again. You will see an 'X' shape on the paper.
5. Use scissors to cut along the four lines of the 'X'. Stop cutting about halfway to the centre.
6. Take one corner of each triangle and fold it gently towards the centre of the paper. Do not press it flat.
7. Fold every other corner towards the centre.
8. Push a pin through the folded corners and the centre of the paper.
9. Push the pin through a stick or straw.

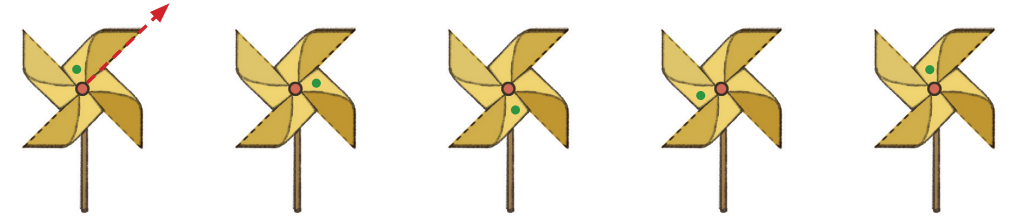


Make sure the pin is not too tight.

Check if your windmill spins when the wind is blowing.

@KTBS NOT TO BE REPUBLISHED

Observe the dot in the *firki*. Does the *firki* look the same after $\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$, and a full turn? _____.



Observe the letters below. Do they look the same when turned? Dots have been marked on the letters to keep track of the orientation of letters. You may also cut out the letters and fix the centre point of the letter by a nail or use a tracing paper to check if the letter looks the same when turned.

Original letter	$\frac{1}{4}$ turn	$\frac{1}{2}$ turn	$\frac{3}{4}$ turn	Full turn	Rotational symmetry (Yes/No)
					Yes, at $\frac{1}{2}$ turn
					
					
					

The letter H has rotational symmetry, as it looks the same when rotated by half a turn.

A firki has rotational symmetry, as it looks the same when rotated by $\frac{1}{4}$, $\frac{1}{2}$, and $\frac{3}{4}$ turn.

©KTBS NOT TO BE REPUBLISHED

Let Us Do

Find symmetry in the digits.

1 2 3 4 5 6 7 8 9 0

Which digit(s) have reflection symmetry? _____

Which digit(s) have rotational symmetry? _____

Which digit(s) have both rotational and reflection symmetries? _____

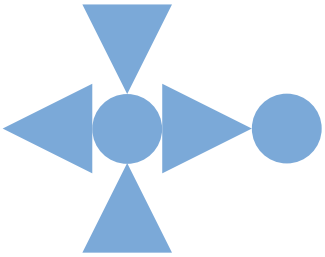
Now, let us look at the following numbers: 11 , 1001

Do these have (a) rotational symmetry, (b) reflection symmetry or (c) both symmetries?

Give examples of 2-, 3-, and 4-digit numbers which have rotational symmetry, reflection symmetry, or both.

Chapter-10 Symmetrical Design.indd 138 04-07-2025 12:20:00

Making Designs



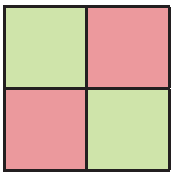
(a) Does the design have rotational symmetry? Yes/No.

(b) Try to change the design by adding some shape(s) so that the new design looks the same after a $\frac{1}{2}$ turn. Draw the new design in your notebook.

(c) Now try to modify or add more shapes so that the new design looks the same after $\frac{1}{4}$ turn. Draw the new design in your notebook.

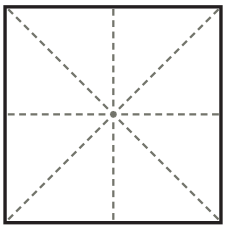
(d) Do the new designs have reflection symmetry? If yes, draw the lines of symmetry.

Let Us Think



Does this design look the same after $\frac{1}{2}$ turn? _____

Does the design look the same after $\frac{1}{4}$ turn?_____



Colour the square given in the adjoining figure using two colours so that the design looks the same after every $\frac{1}{4}$ turn.

How many times does this shape look the same during a full turn?

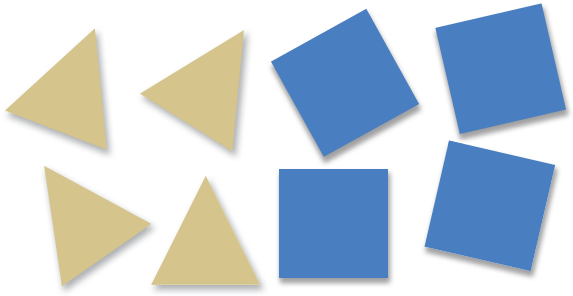
Do these designs have reflection symmetry also? Draw the line(s) of symmetry.

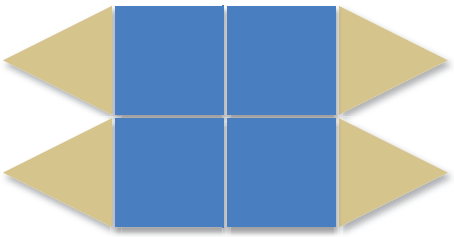
@KTBS NOT TO BE REPUBLISHED

Let Us Do

Cut out squares and equilateral triangles with the same side length. These are provided at the end of the book.

Make different symmetrical designs by using these two shapes.





Does this shape have reflection symmetry?

If yes, draw its line(s) of symmetry.

Does it have rotational symmetry?

If yes, at which turn?

Does it have both symmetries?

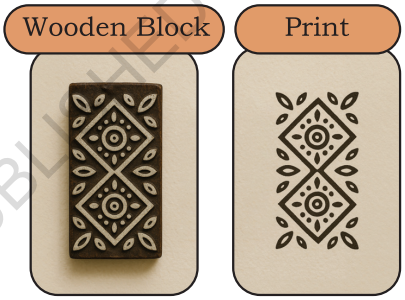
Now, make your designs. Sort your designs in 3 categories—designs with only rotational symmetry, designs with only reflection symmetry, and designs with both rotational and reflection symmetry.

Let Us Explore

Block printing is a traditional craft of Rajasthan, known for beautiful patterns and bright colours.

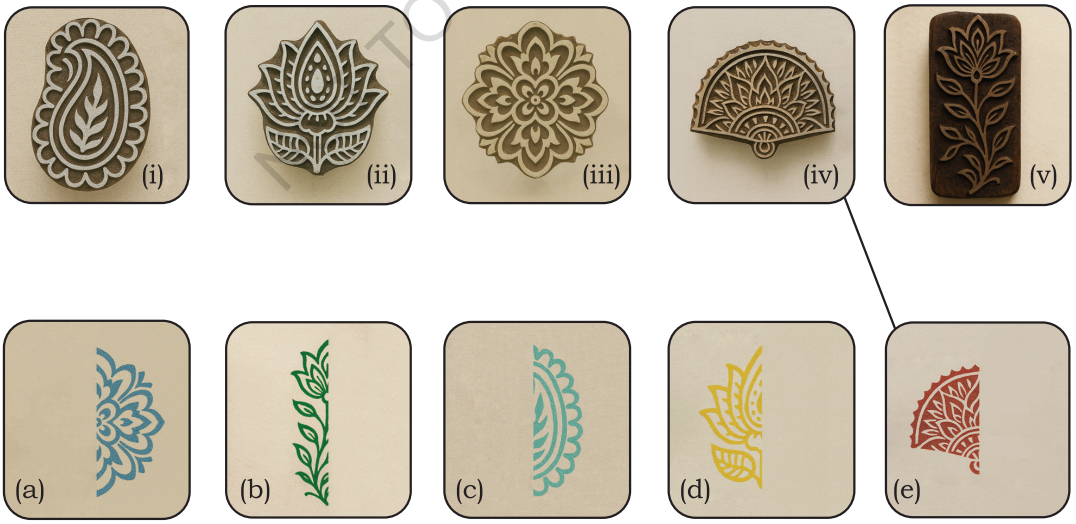
Artisans use carved wooden blocks to print designs on fabric.

This art has been practised for centuries and makes Rajasthan's textiles special.



© NCERT NOT TO BE REPUBLISHED

Below are images of wooden blocks and a part of their prints. Match each block to its correct print by drawing a line. One is done for you.

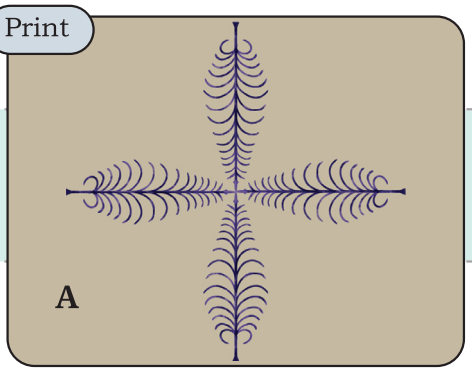


Observe the pattern made by the wooden block below. We get the final print by using the block 4 times.

Wooden Block

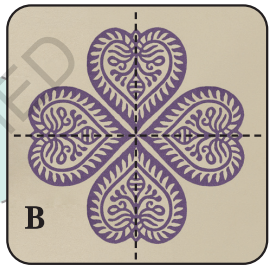


Print



The design A looks the same after every $\frac{1}{4}$ turn.

The design B looks the same after every _____ turn. This design has _____symmetry.



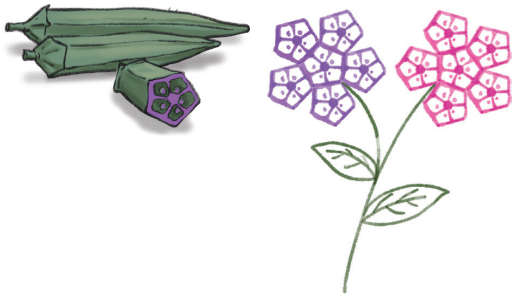
Let Us Do

Observe the shapes given on the border. Which of the shapes have reflection symmetry? Put a (✓) mark on them. Put a * on the shapes that have rotational symmetry.

Project Work

Create symmetrical patterns and designs using vegetable blocks. Some are shown below.

(a)



(b)



@KTBS NOT TO BE REPUBLISHED

Chapter-10 Symmetrical Design.indd 141 7/2/2025 6:31:22 PM

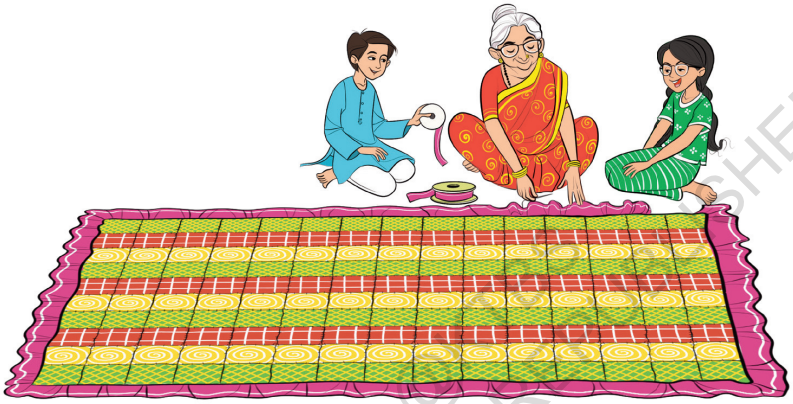
Chapter 11

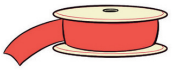
Grandmother's Quilt

0533CH11

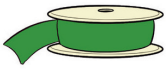


Preetha and Adrit's grandmother made a quilt cover using old clothes. Now she wants to decorate it with lace. Tick the lace option that would cover the entire border of the quilt.

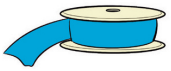




(i) Red lace
40 units



(ii) Green lace
50 units



(iii) Blue lace
25 units

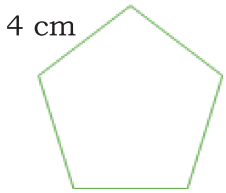
© NCERT NOT TO BE REPUBLISHED

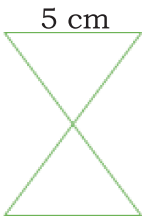
She decides to use two different coloured laces. How much lace of each kind will be needed to cover the entire border?

Recall that the length of the border of a shape is called its **perimeter**.

Let Us Do

1. Find the perimeter of the following shapes. All sides of the following shapes are equal.





2. Draw two rectangles each having the following perimeters.

   (a) 26 cm

   (b) 18 cm

Preetha and Adrit's grandmother is making a rug with square patches. The picture below shows the rug. How many patches have they used to make this?



Preetha and Adrit are trying to cover their table with different shapes. Preetha covered it with triangles and circles. Adrit covered with squares and rectangles.

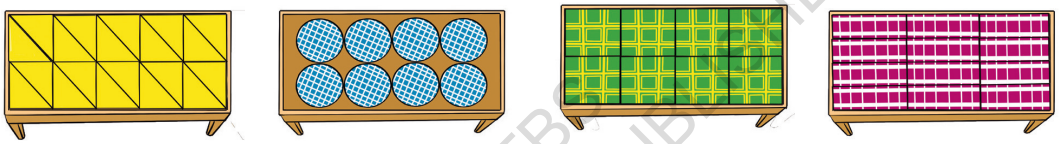


Table 1 Table 2 Table 3 Table 4

They found that _____, _____ and _____ shapes cover the top of the table without gaps and overlaps. _____ shape leaves gaps.

_____ triangles cover Table 1.

_____ squares cover Table 3.

_____ rectangles cover Table 4.

The region covered by the triangles, squares or rectangles is called the **area** of the table.

To find the area of a region, we usually fill it with shapes that tile (no gaps and overlaps), like squares, rectangles and triangles.

Do circles tile? Can we use them to cover a region?

The area of Table 1 is _____ triangle units.

The area of Table 3 is _____ square units.

The area of Table 4 is _____ rectangle units.

Now, try to cover the top of your table without gaps and overlaps with the following objects of same size.

(a) Notebooks (b) Lunch boxes

(c) Pencil boxes (d) Maths textbooks

Which of the above objects covered the region completely?

© KTBS NOT TO BE REPUBLISHED

Chapter-11 Grandmother's Quit.indd 143 7/2/2025 6:18:34 PM

Let Us Do

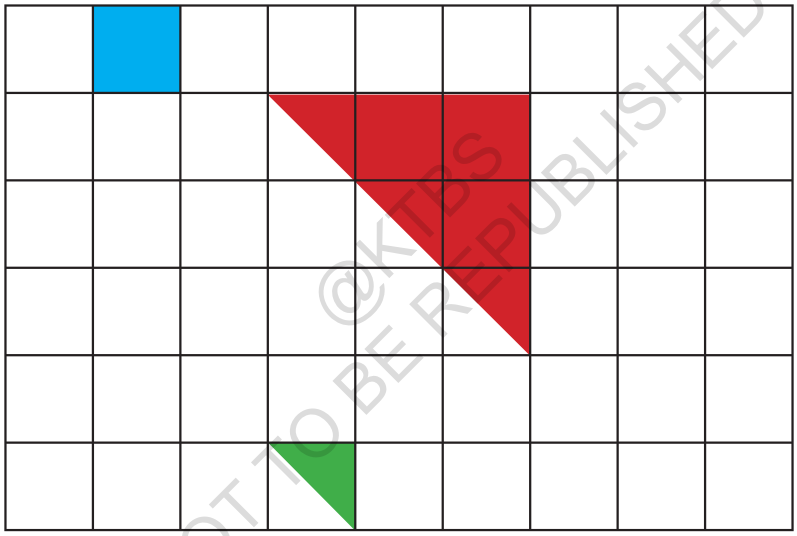
Preetha is playing with tiles. She covers her desk with different shapes as shown below.

Look at the different tiles on her desk and answer how many of the following shapes will cover the desk.

(a) Green triangles _____

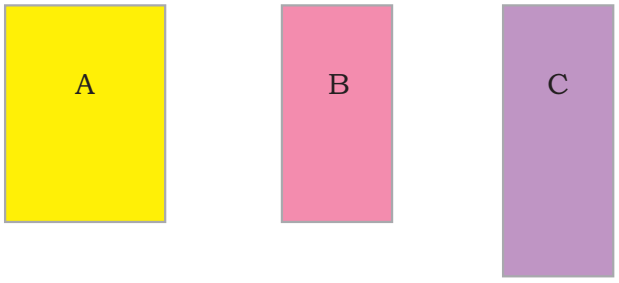
(b) Red triangles _____

(c) Blue squares _____



@KTBS NOT TO BE REPUBLISHED

Comparing Shapes



Chapter-11 Grandmother's Quit.indd 144 7/2/2025 6:18:34 PM

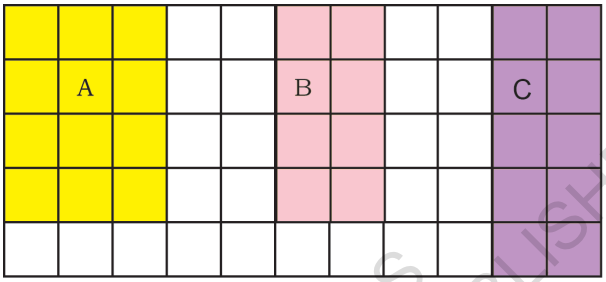
Which of the above rectangles has the largest area? Trace these shapes on to a paper and cut them to find out the one that has the largest area.

Do you see that the area of rectangle A is larger than that of B? What about B and C?

Which shape has a larger area among A and C? How will you find out?

Let us put these rectangles on a square grid. Now, can you identify the rectangle that has the largest area?

Using square grids is the most convenient way to find the area of regions. We say that the area of a square with sides 1 unit is 1 unit square.



1 unit

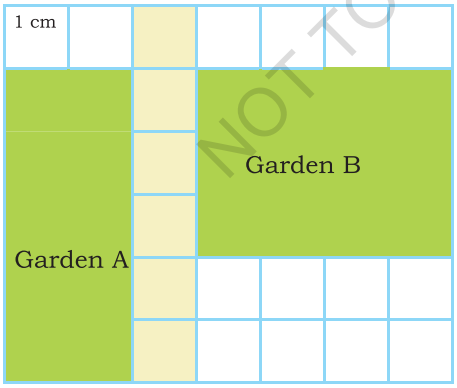
Area = 1 unit square



@KTBS NOT TO BE REPUBLISHED

Let Us Do

1. Compare the areas of the two gardens given below on the square grid. Share your observations.



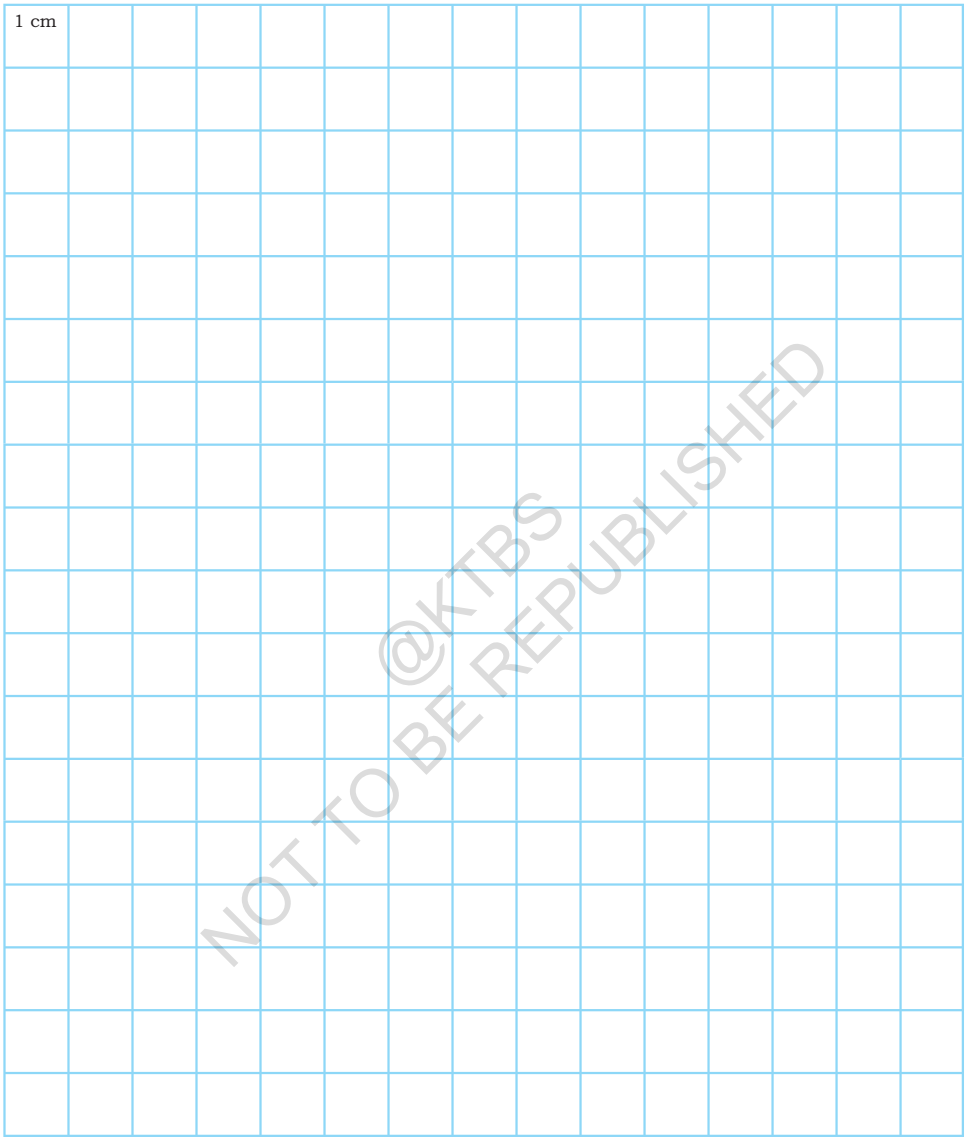
Area of Garden A = _____ cm square

Area of Garden B = _____ cm square

Note for Teachers: Tiles of several shapes like triangles, rectangles, and squares can be used to measure the area of a region. We choose a square as a unit for measuring area as its sides are of equal length. Therefore, we can define the area of a unit square as 1 unit square. This allows us to measure area, similar to that of measuring length.

Chapter-11 Grandmother's Quit.indd 145 7/2/2025 6:18:34 PM

2. Trace your palm on the square grid given below and find the approximate area of your palm. Compare the area of your palm with your friend's palm. Who has a bigger palm?



@KTBS
NOT TO BE REPUBLISHED

3. Collect leaves of different kinds. Put them on a square grid and find their area.
   (a) Name the leaf with the largest area.
   (b) Name the leaf with the smallest area.

Chapter-11 Grandmother's Quit.indd 146 7/2/2025 6:18:34 PM

4. The following mats are made of square patches of equal size. How many square patches will be required to cover each mat? Would both mats require an equal or different number of patches? Trace and cut out a small square of the size give below and find the area.

(a)



Area = _____

Perimeter = _____

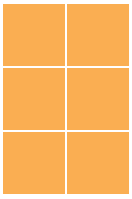
(b)

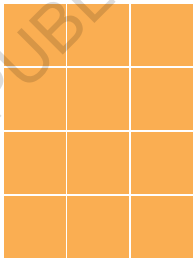


Area = _____

Perimeter = _____

Trisha makes these two rectangles. She says, "I increased the area of my rectangle, and the perimeter increased." Do you think this is always true?

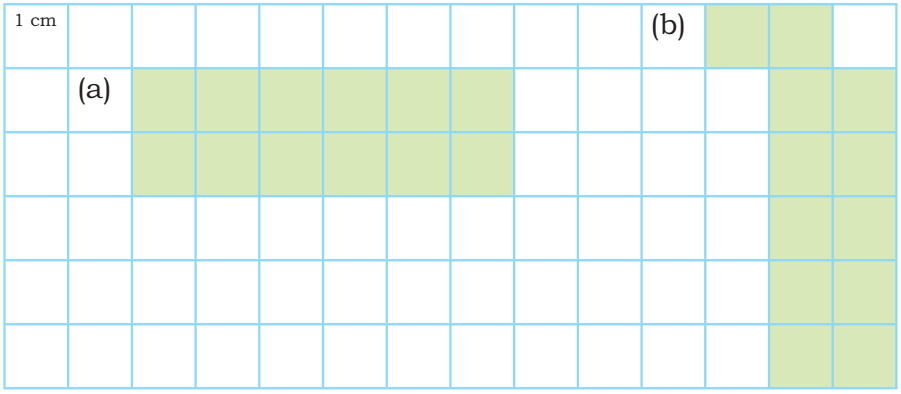




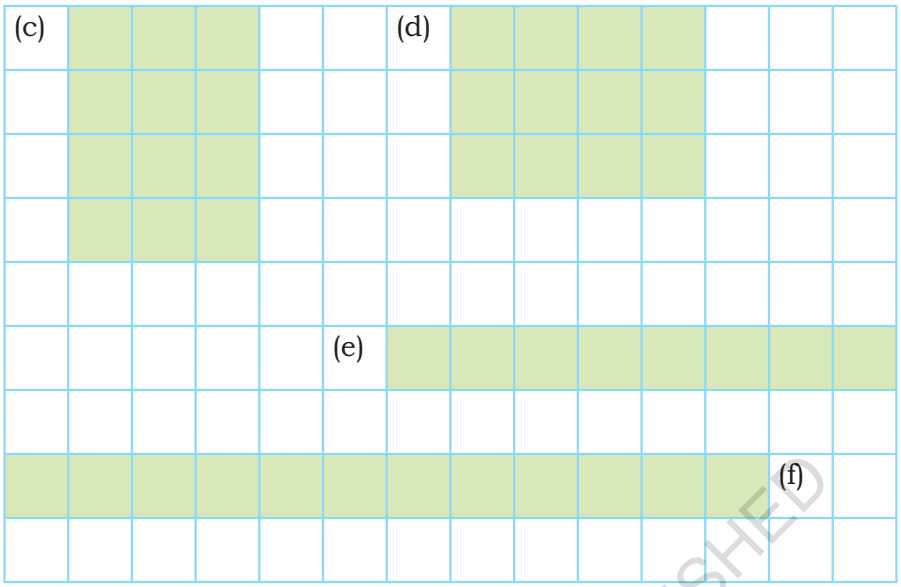
@KTBS NOT TO BE REPUBLISHED

Let Us Explore

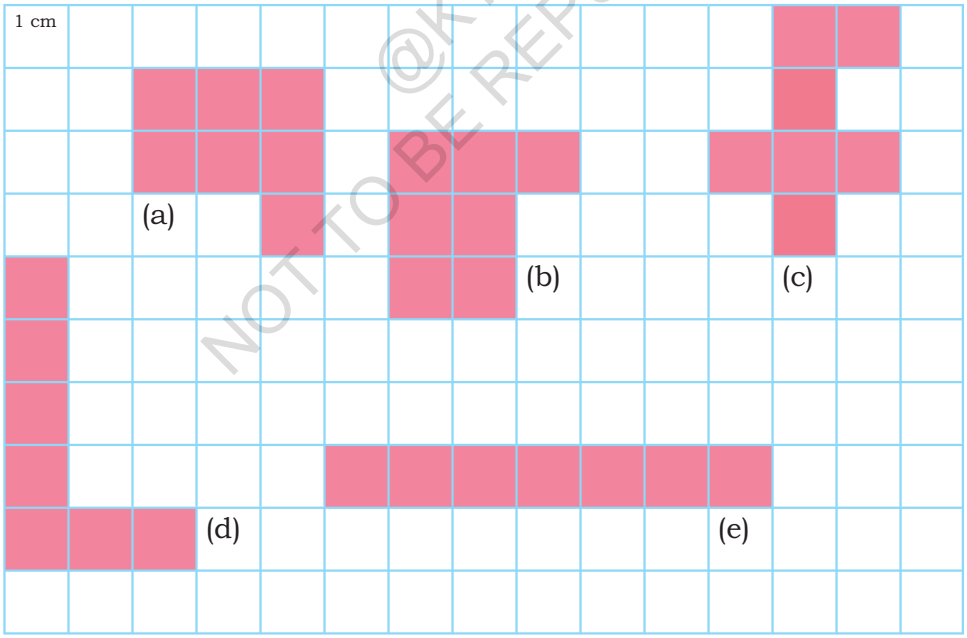
1. Tick the shapes with the same area. Find the perimeters of these shapes. What do you notice? Discuss.



Chapter-11 Grandmother's Quit.indd 147 7/2/2025 6:18:34 PM



2. Tick the shapes with the same perimeter. Find the areas of these shapes. What do you notice? Discuss.

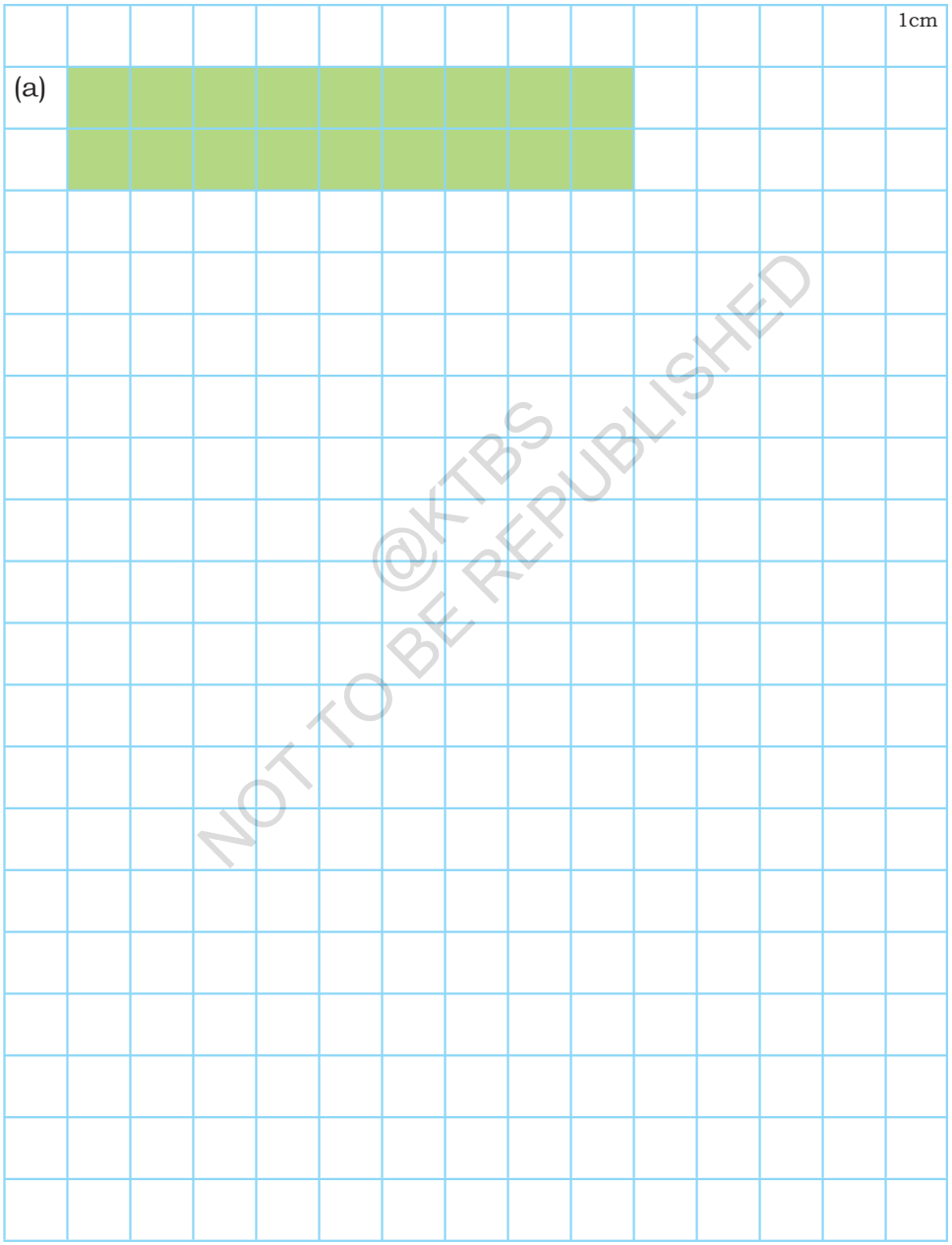


@KTBS NOT TO BE REPUBLISHED

Chapter-11 Grandmother's Quit.indd 148 7/2/2025 6:18:34 PM

Let Us Do

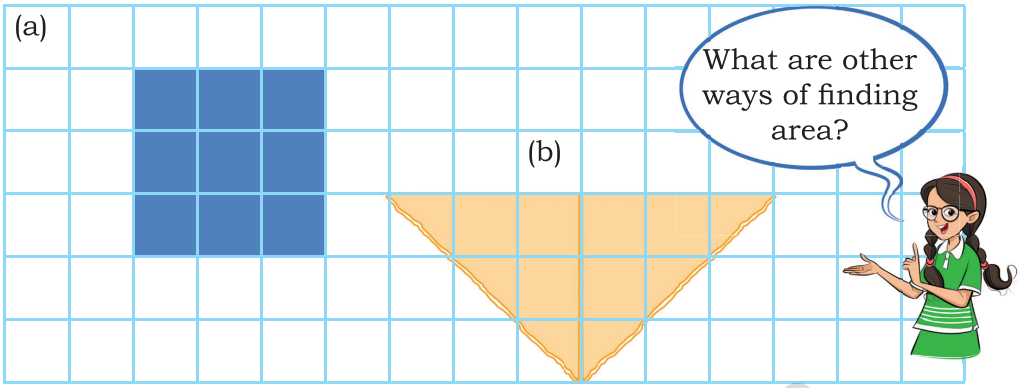
1. Draw different shapes having the same area as the given shape. Write the perimeter of each shape. What do you notice? Discuss.



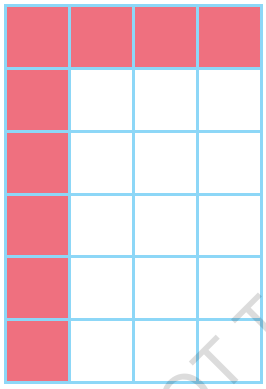
@KTBS
NOT TO BE REPUBLISHED

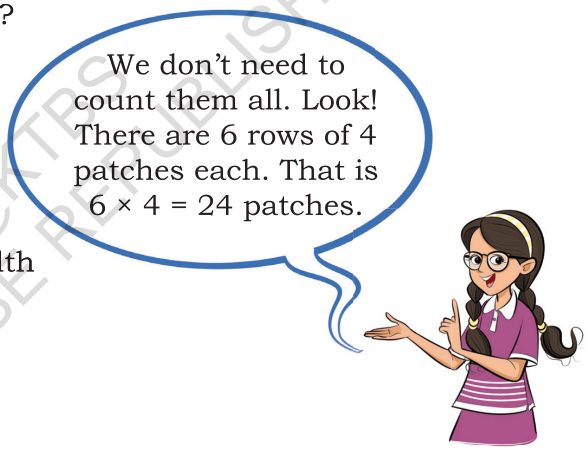
Chapter-11 Grandmother's Quit.indd 149 7/2/2025 6:18:34 PM

2. Is the area of shape (a) less than the area of shape (b) given below? Discuss.



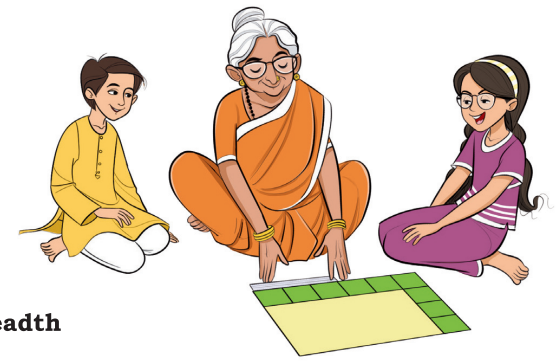
Preetha and Adrit's grandmother is making another square patchwork. She arranges the patches as shown below. Can you guess how many patches she will need? How did you find it?





Did you notice that 6 is the length of one side and 4 is the length of the non-equal side of the rectangle?

Go back to the previous examples and check whether the product of the length and the breadth of the rectangles is the same as the area you had calculated by counting.



Area of Rectangle	**= Length × Breadth**
Area of square patch work	= 6 cm × 4 cm
	= 24 square cm

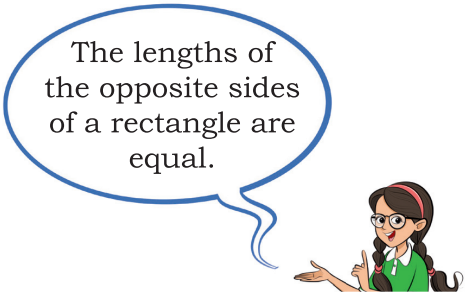
NOT TO BE REPUBLISHED @KTRS

Chapter-11 Grandmother's Quit.indd 150 7/2/2025 6:18:35 PM

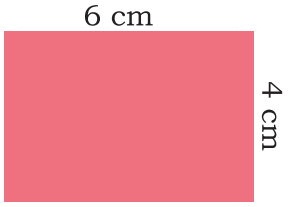
Similarly, we can also find the perimeter of the rectangular shape.

Perimeter = Length + Length + Breadth + Breadth

= 2 × Length + 2 × Breadth



What will happen if all the sides of a rectangle are equal, that is, the case of square?





Let us think about a square whose sides are 5 units long.

Area of Square	**= Length × Length**
Area	= 5 × 5
	= 25 square cm
Perimeter of Square	= Length + Length + Length + Length
	= 4 × Length
	= 4 × 5
	= 20 cm

© NCERT NOT TO BE REPUBLISHED

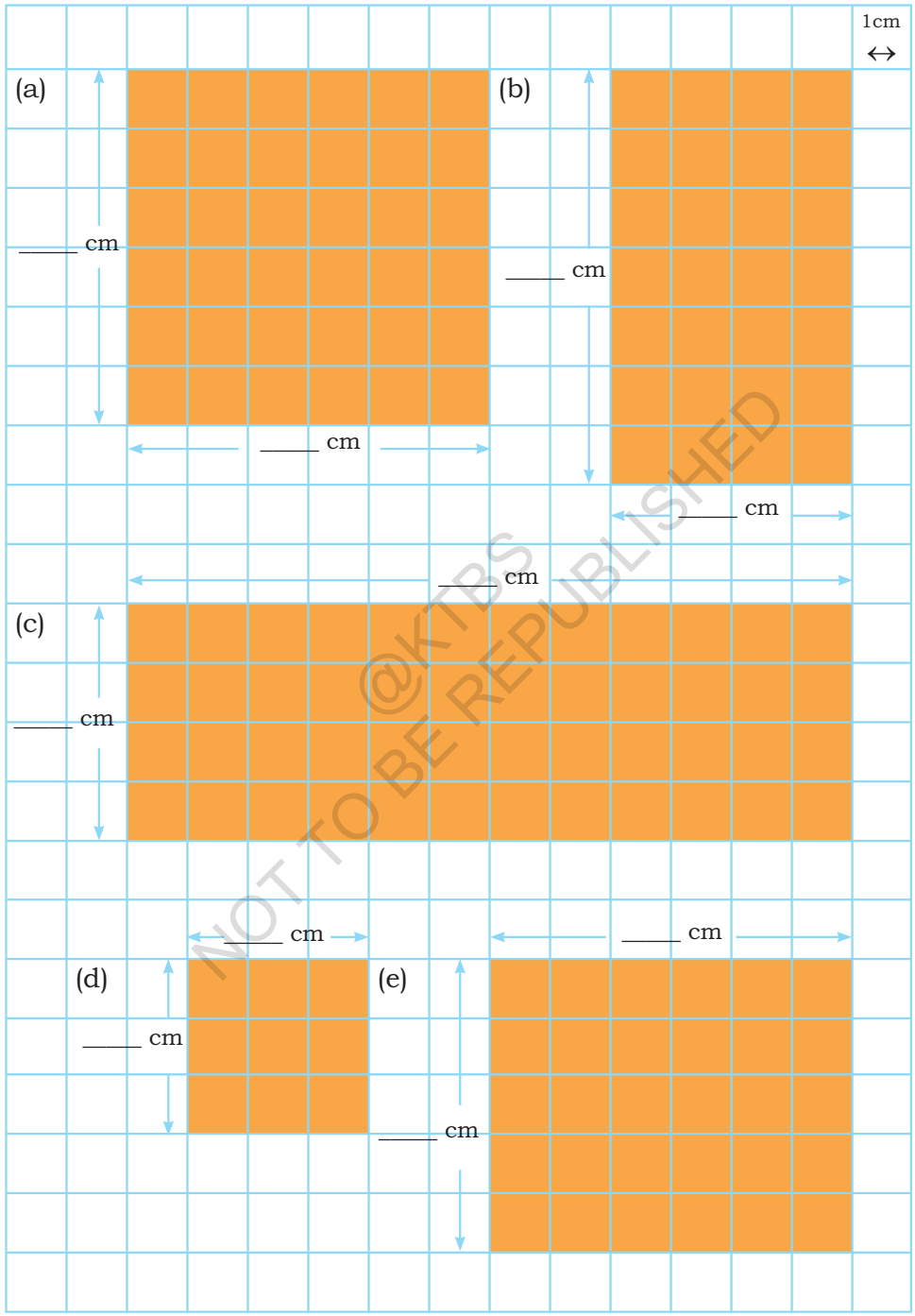
Let Us Do

1. Find the area of your classroom floor in square meters. Take the help of your teacher to measure the length and breadth of the floor. What is the perimeter of the classroom floor?

Note for Teachers: Instead of counting each square, see that rectangles can be tiled by a row-column arrangement of unit squares. To find the area, they can simply multiply the number of rows by numbers of columns. This will also build an understanding of area as a model for multiplication.

Chapter-11 Grandmother's Quit.indd 151 7/2/2025 6:18:36 PM

2. Find the area and perimeter of the following shapes.



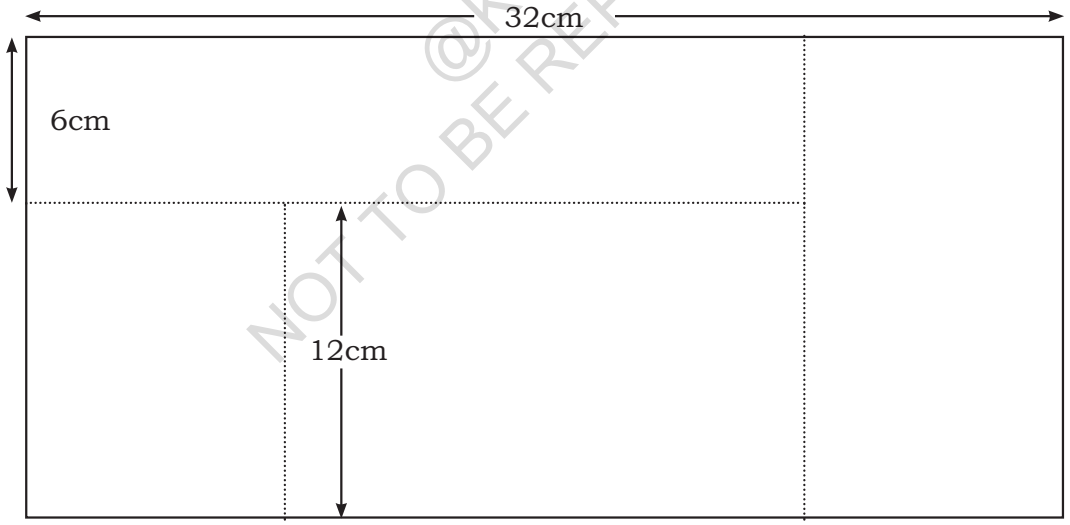
@KTBS NOT TO BE REPUBLISHED

Chapter-11 Grandmother's Quit.indd 152 7/2/2025 6:18:36 PM

3. Find the area and perimeter of the following objects. Use a scale or measuring tape to find the length and the breadth of each of the objects.

S. No.	Name of the objects	Area	Perimeter
1.	Cover of the Notebook		
2.	Newspaper		
3.	Blackboard		
4.	Ludo board		
5.			
6.			

4. Find the area of a rectangular field whose length is 42 m and breadth is 34 m.
5. The area of a rectangular garden is 64 square m and its length is 16 m. What is its breadth?
6. Find the area of the following figure with the dimensions as marked in the figure.

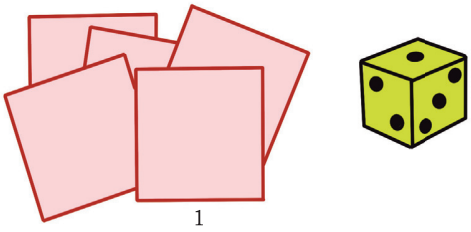


@KTBS NOT TO BE REPUBLISHED

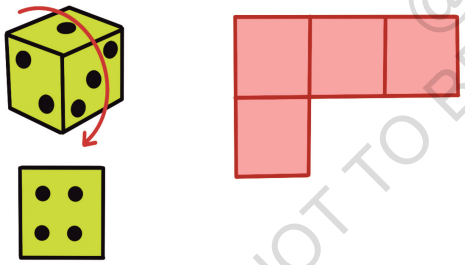
Chapter-11 Grandmother's Quit.indd 153 7/2/2025 6:18:36 PM

Let Us Play

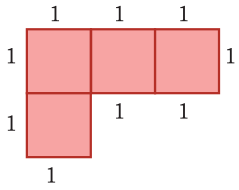
1. Take some square tiles and a die and play the game in pairs.



2. Roll the die and pick the number of tiles equal to the dots on the die. Arrange them to make a shape or figure.

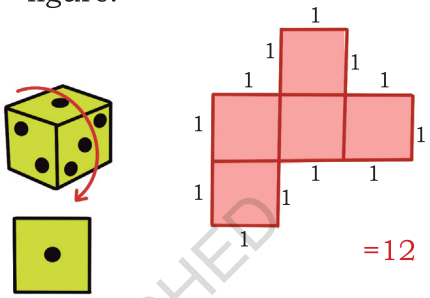


3. Find the perimeter of the tiles.



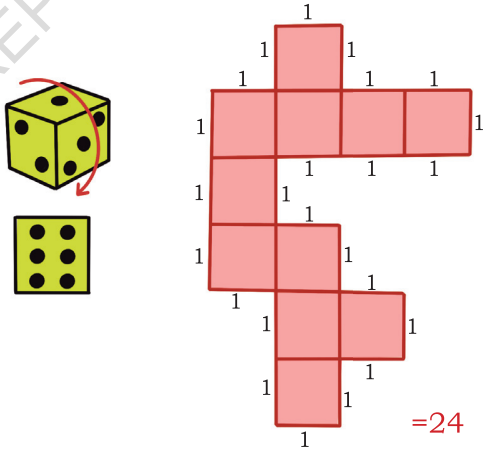
=10

4. Do not move the tiles. The second player can take turn and add tiles to the same tiled figure.



=12

5. Take turns and add tiles to the same figure till the perimeter becomes 24.



=24

The one who makes the perimeter 24 wins the game.



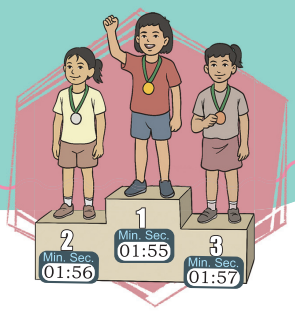
@KTBS NOT TO BE REPUBLISHED

Chapter-11 Grandmother's Quit.indd 154 7/2/2025 6:18:36 PM

Chapter

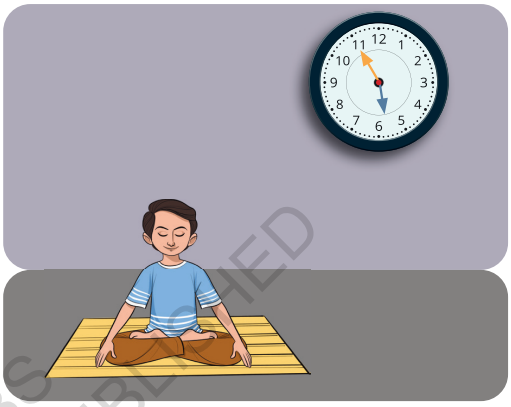
12 Racing Seconds

0533CH12



Raghav practices yoga in the morning.





©KTBS NOT TO BE REPUBLISHED

Let us find out

1. At what time did Raghav start practising Yoga? .....
2. At what time did he finish? .....
3. How much time did he spend practising Yoga? .....
4. Find the time elapsed between the given time periods. Share your strategies.
   (a) 01:15 p.m. to 01:42 p.m.?
   (b) 03:18 p.m. to 08:18 p.m.?
   (c) 09:15 a.m. to 11:30 a.m.?
5. The table below shows the time taken by 3 children to paint a picture.

Name	Time Taken
Raghav	1 hour 20 minutes
Rani	2 hours 10 minutes
Ritu	1 hour 35 minutes

   (a) Who took the longest time?
   (b) Who took the least time?

6. Fill in the blanks by writing the time in the appropriate format.

Time in 12-hour fromat	Time in 24-hour fromat 
05:30 a.m.	05:30 hours
.....	08:35 hours
11:55 a.m.	..... hours
02:30 p.m.	14:30 hours
05:30 p.m.	..... hours
09:35 p.m.	..... hours

7. Match the following.

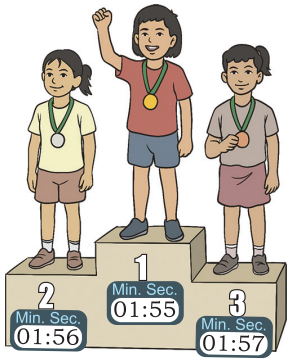
Time in 12–hour format	Time in 24–hour format
06:30 a.m.	01:30 hours
08:45 p.m.	23:45 hours
11:45 p.m.	06:30 hours
04:30 a.m.	20:45 hours
07:30 p.m.	04:30 hours
01:30 a.m.	19:30 hours

@KTBS NOT TO BE REPUBLISHED

School Race

Akira, Sunita, and Mary are participating in a 200 m-walking race.





Chapter-12 Racing Seconds.indd 156 7/2/2025 6:18:59 PM

Do you notice the use of a new unit 'seconds' in the picture?

1 min = 60 seconds

In situations like a race, ***'seconds'*** help us observe small differences in time taken by participants. Each participant took 1 minute but how much more? Identify the child who won the race. How much time did the child take?

Let Us Do

Estimate whether you would take seconds or minutes to complete the following activities. Tick the appropriate cell.

Activity	Seconds	Minutes
Blinking of eyes		
Switching on and switching off the lights		
Counting from 1–20		
Filling a glass from the tap		
Melting of an ice-cube		
Making a phone call		
Sitting down on the floor		
Drinking a glass of water		
Snapping fingers		
Washing hands		

@KTBS NOT TO BE REPUBLISHED

Note for the Teachers: Let the learners observe and discuss who stood first, who stood second, and who stood third and why. Help them understand the difference between minutes and seconds and seconds as a unit which adds precision in measuring short time duration. Get the learners to observe that 60 movements of the seconds hand leads to a shift in the minute hand.

Chapter-12 Racing Seconds.indd 157 7/2/2025 6:18:59 PM

List events other than the ones listed above that you can do or that can happen in less than a minute or in a few seconds.

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

Estimate and verify how many of these you can do in a minute.

Activity	Estimated Number	Actual Number
Number of balloons blown		
Number of push-ups		
Number of breaths		
Number of hops on one leg		

@KTBS NOT TO BE REPUBLISHED

Let Us Find



1. Find out the number of times you can skip the rope in 10 seconds.
2. How long does it take you to write the word **FRIEND**?
3. How long does it take you to run 100m?

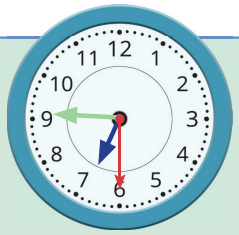


Chapter-12 Racing Seconds.indd 158 7/2/2025 6:19:00 PM

Let Us Do

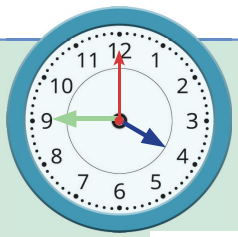
Observe the clocks and fill in the blanks.

1

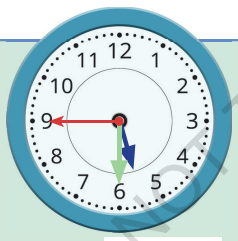
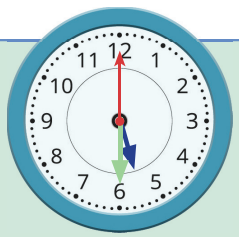
Rani took _____ sec. to get out of her bed.

2



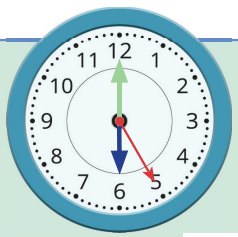
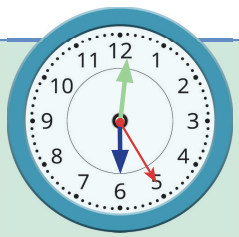

Raghav took _____ sec. to move from his room to the kitchen.

3

Ritu took _____ sec. to pick up a piece of paper from the floor.

4

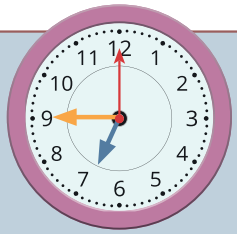



Raghu took _____ sec. to wash his spoon and plate.

© KTBS NOT TO BE REPUBLISHED

Draw the missing seconds hand on the clocks on the right side.

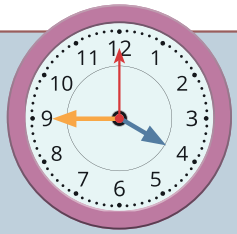
1

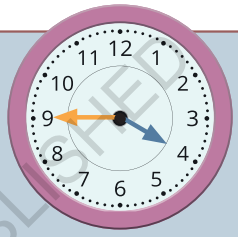




Raghu took **20 sec.** to read a sentence in his book.

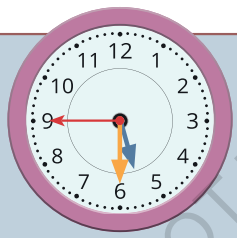
2

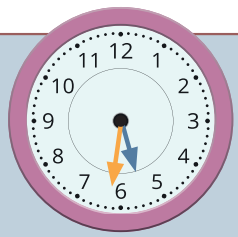




Rani took **30 sec.** to color a rectangle.

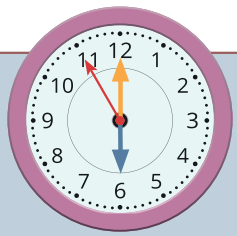
3

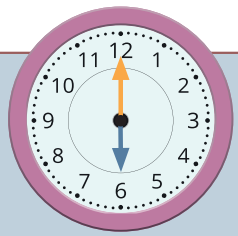




Raghav took **60 sec.** to move from his home to the garden.

4





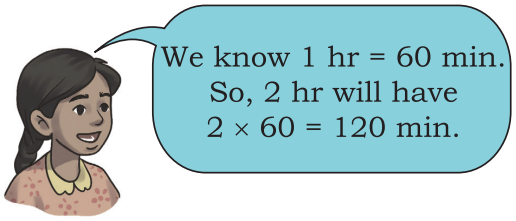
Ritu took **40 sec.** to wash a plate.

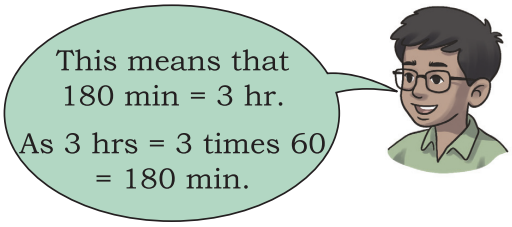
@KIBS NOT TO BE REPUBLISHED

Chapter-12 Racing Seconds.indd 160 7/2/2025 6:19:00 PM

Conversion of Hours to Minutes

Zainab and Remo were converting time from hours to minutes and vice-versa.

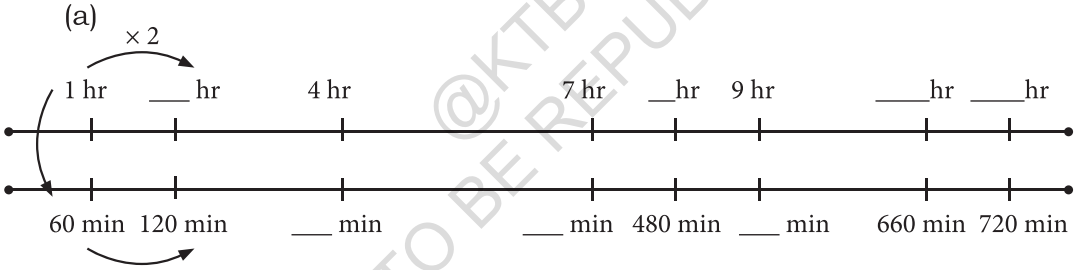




Let Us Do

1. Use the double number line below to complete the conversions.

(a)



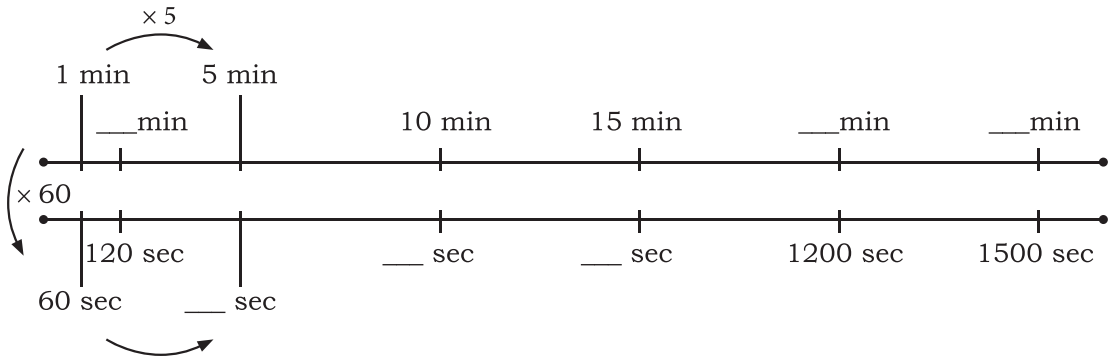
(b) Do as instructed. You can use the above double number line for the following conversions.

(i) 1 hours 10 minutes = _____ minutes
(ii) 2 hours 45 minutes = _____ minutes
(iii) 3 hours 15 minutes = _____ minutes
(iv) 4 hours 20 minutes = _____ minutes
(v) 75 minutes = ____ hour ____ minutes
(vi) 150 minutes = ____ hours ____ minutes
(vii) 220 minutes = ____ hours ____ minutes
(viii) 390 minutes = ____ hours ____ minutes

@KTBS NOT TO BE REPUBLISHED

Chapter-12 Racing Seconds.indd 161 7/2/2025 6:19:00 PM

(c) Fill in the blanks in the double number line to complete the conversions.



(i) 320 sec = ____ min ____ sec

(ii) 225 sec = ____ min ____ sec

(iii) 700 sec = ____ min ____ sec

(iv) 1,000 sec = ____ min ____ sec

(v) 10 min 13 sec = ____ sec

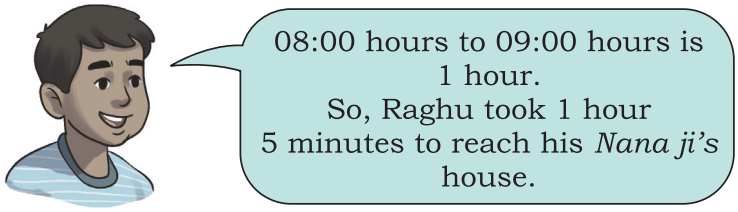
(vi) 4 min 8 sec = ____ sec

(vii) 15 min 40 sec = ____ sec

© KTBS NOT TO BE REPUBLISHED

2. Raghav studies Mathematics, English, Hindi, and The World Around Us subjects. He took 50 minutes to study each of the subjects. Find the total time taken in hours and minutes. Share your strategies with your class.

3. Raghu left his house at 08:00 hours and arrived at his *Nana ji's* house at 09:05 hours. How long did he take to reach his house?



Chapter-12 Racing Seconds.indd 162 7/2/2025 6:19:01 PM

4. Jyoti went to play at 06:15 PM. She came back after 1 hour 45 minutes. At what time did she reach home?

5. Ragini took 1 hour 10 minutes to do her homework. She finished it at 09:40 PM. What time did she start?

6. A group of children left for a picnic at 08:30 AM. They returned after 4 hours and 10 minutes. At what time did they return?

7. Raji started her homework at 06:00 PM. She finished her homework in 1 hour 30 minutes. At what time did she finish?

8. Alya goes out to play at 05:30 PM and comes back after 1 hour 10 minutes. At what time does she come back?

9. If the lunch break of a school starts at 12:30 PM and ends in 35 minutes, what time will lunch end?

10. It is 08:35 PM right now. What time will it be after 8 hours and 25 minutes?

@KTBS
NOT TO BE REPUBLISHED

Note for the Teachers: Encourage learners to solve these problems orally and not by aligning them in columns and using algorithms.

Chapter-12 Racing Seconds.indd 163 7/2/2025 6:19:01 PM

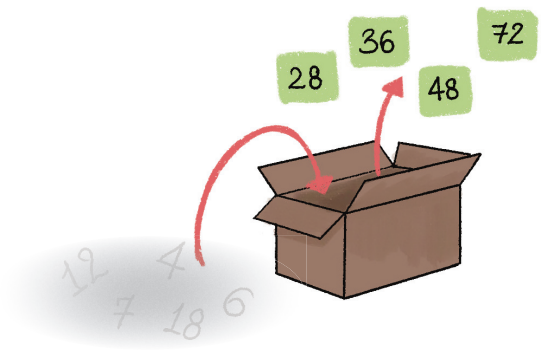
Chapter 13

Animal Jumps

0533CH13



Find the hidden numbers.



Numbers put in this box get multiplied by a number and come out.

(a) Can you guess the multiplier if you see the 4 numbers coming out of the box?

(b) Is there more than one possible multiplier?

(c) What numbers might have been put inside the box?

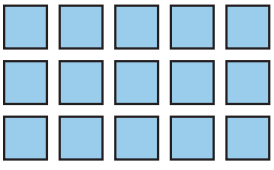
Share your thoughts in the class.

You can also play this game with your friends.

The multipliers 1, 2, and 4 that you found above are the **factors** of the numbers that have come out of the box, that is, 28, 36, 48, and 72. In fact, these are the common factors of all the numbers. The numbers 28, 36, 48, and 72 are **multiples** of 1, 2 and 4.

The product of two or more factors gives a multiple.

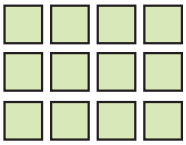
A number, when arranged in an array, shows the factors of that number. Are there other numbers that are factors of 15? Try to make other arrays for the number 15.



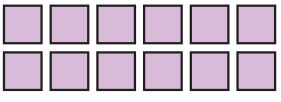
3 × 5 = 15

Factors | Multiple

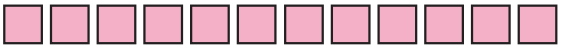
Let us make arrays for the number 12.



3 × 4 = 12



2 × 6 = 12



1 × 12 = 12

© NCERT NOT TO BE REPUBLISHED

1, 2, 3, 4, 6, and 12 are all factors of 12. Each of the numbers can divide 12 completely. 12 is a multiple of these numbers.

Do you see why 12 is a multiple of 1, 2, 3, 4, 6, and 12?

$2 \times \_\_\_\_ = 12$ $\quad$ $3 \times \_\_\_\_ = 12$

$12 \times \_\_\_\_ = 12$ $\quad$ $1 \times \_\_\_\_ = 12$

The number itself is always a multiple of itself.

Let Us Do

Make different arrays for the following numbers. Identify the factors in each case.

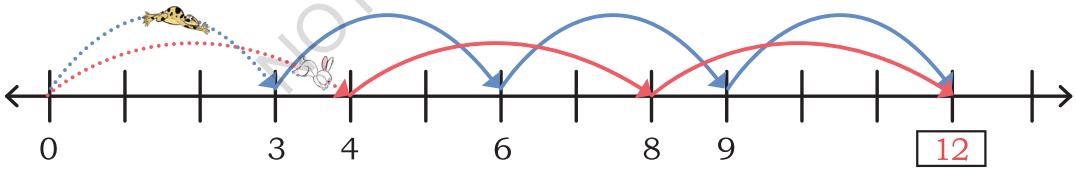
(a) 10 (b) 14 (c) 13 (d) 20 (e) 25 (f) 32 (g) 37 (h) 46 (i) 54

Numbers like 13 and 37 are called prime numbers. Why?

@KTBS NOT TO BE REPUBLISHED

Animal Jumps

A rabbit takes a jump of 4 each time. A frog takes a jump of 3 each time. Use the number line to figure out the numbers they will both touch. If the rabbit and the frog start from 0, the numbers both of them will touch are called the **common multiples** of 3 and 4.

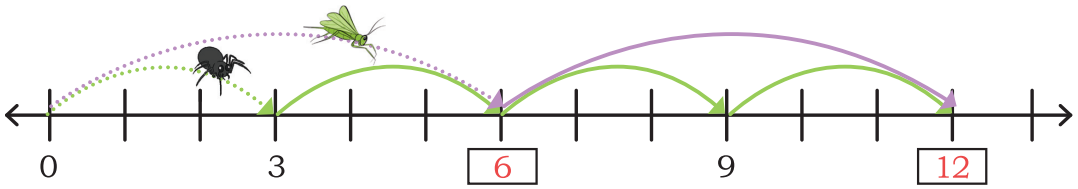


12 is the first common multiple of 3 and 4. What are some other common multiples of 3 and 4? You can continue the number line or take help from the times tables of 3 and 4.

What do you notice about the common multiples of 3 and 4? Discuss in class.

Chapter-13 Animal Jumps.indd 165 7/2/2025 6:19:27 PM

A spider takes a jump of 3 every time. A grasshopper takes a jump of 6 each time. Use the number line to find the common multiples of 3 and 6.



6 and 12 are two common multiples of 3 and 6. You can continue the pattern to find more common multiples. What do you notice about the common multiples of 3 and 6? Discuss.

Let us write the multiples of two numbers— 4 and 6.

Multiples of 4— 4, 8, 12, 16, ...

Multiple of 6— 6, 12, 18, ...

12 and 24 are two of the common multiples of 4 and 6. List a few more.

@KTBS NOT TO BE REPUBLISHED

Let Us Do

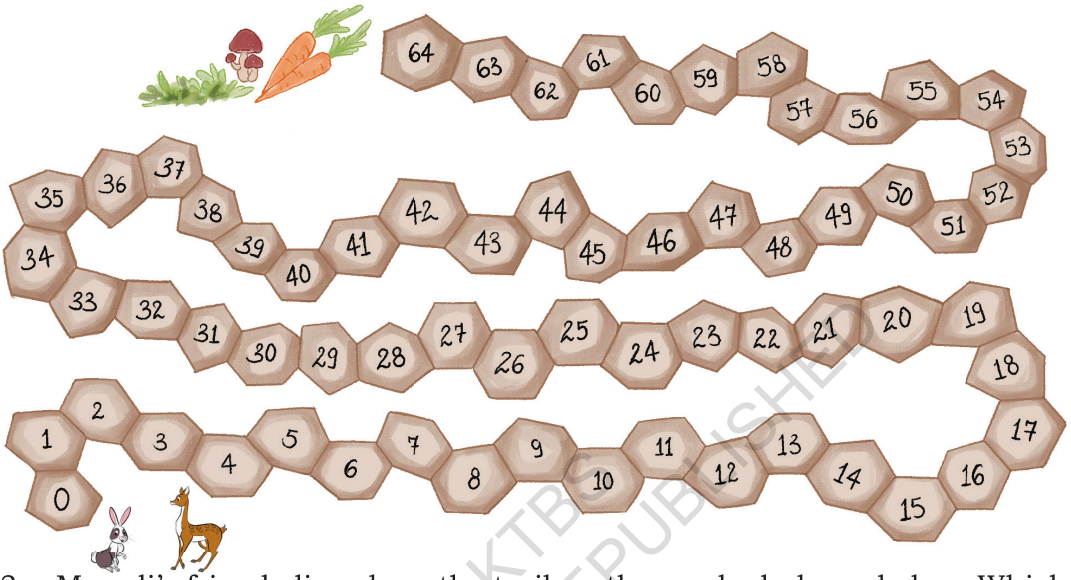
1. Find 5 common multiples of the following pairs of numbers.

(a) 2 and 3	(d) 3 and 9	(f) 8 and 12
(b) 5 and 8	(e) 5 and 10	(g) 6 and 8
(c) 2 and 4	(f) 9 and 12	(h) 6 and 9

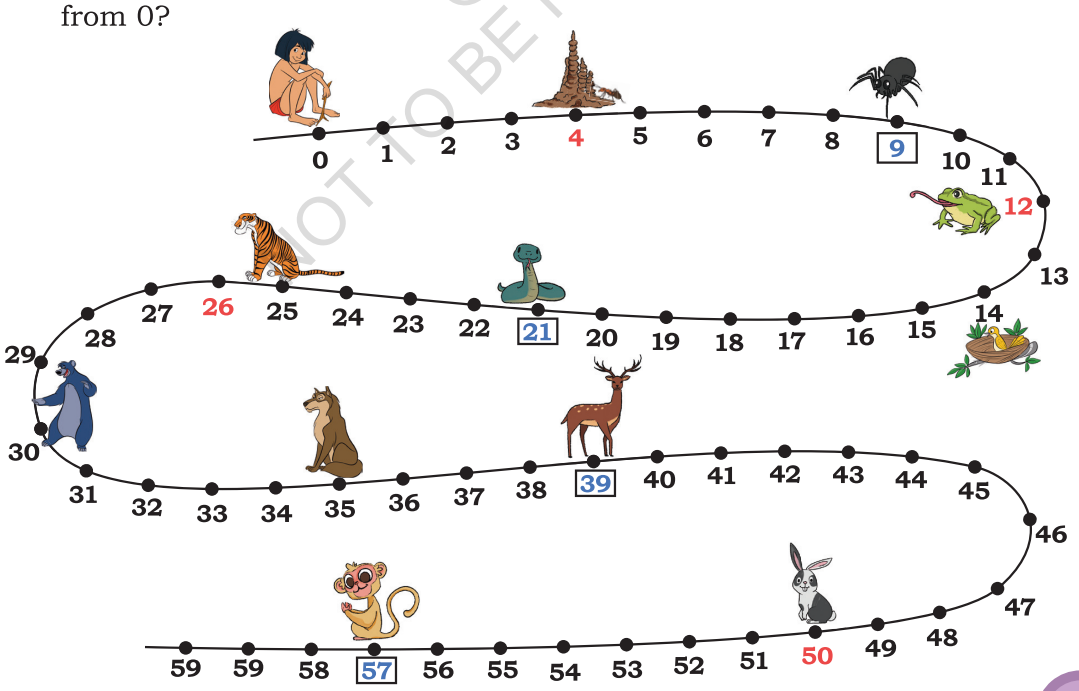
What do you notice about the common multiples of different pairs of numbers? Discuss in class.

Chapter-13 Animal Jumps.indd 166 7/2/2025 6:19:27 PM

2. Food is available at the end of a cobbled road. Robby, the rabbit, takes a jump of 4 each time. Deeku, the deer, takes a jump of 6 each time. They both start at 0. Will both Robby and Deeku reach the food? Who will reach first? How do you know? Explain your answer.



3. Mowgli's friends live along the trail on the marked places below. Which of his friends will he be able to visit, if he jumps by 2 steps starting from 0?



© KTBS NOT TO BE REPUBLISHED

Did Mowgli meet the ant, frog, bird and the rabbit? Notice their positions— 4, 12, 14, and 50. 2 is a common factor of these numbers.

Which of his friends will he be able to meet if he jumps by 3 steps?

3 is a common factor of the numbers 9, 21, 39, and 57.

Which numbers will he touch if he jumps by 5 steps?

_____.

5 is a common factor of the numbers _____.

Which numbers will he touch if he jumps by 10 steps?

_____.

10 is a common factor of the numbers _____.

A **common factor** of two or more numbers exactly divides each the numbers.

4. Let us find some common factors of the numbers 24 and 36. Note that all jumps in the following questions start from 0.

   (a) Can we jump by 2 steps at a time to reach both 24 and 36? Yes/No. 2 is/is not a common factor of 24 and 36.

   (b) Can we jump by 3 steps at a time to reach both 24 and 36? Yes/No. 3 is/is not a common factor of 24 and 36.

   (c) Can we jump by 4 steps at a time to reach both 24 and 36? Yes/No. 4 is/is not a common factor of 24 and 36.

   (d) What other jumps can we take to reach both 24 and 36?

   (e) How many common factors can you find for 24 and 36? List them.

   (f) What about jumping by 1 step each time to reach both 24 and 36?

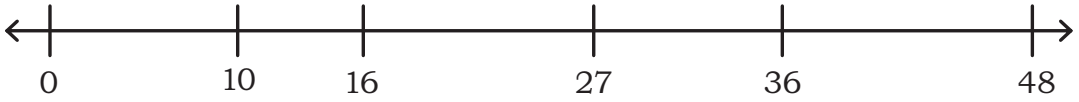
5. What are the common factors of 12 and 13?

The number itself and 1 are always factors of any number

@RTBS NOT TO BE REPUBLISHED

Chapter-13 Animal Jumps.indd 168 7/2/2025 6:19:28 PM

6. Find which of the following numbers can be reached by jumps of 4 steps?



4 is the common factor of the numbers _____.

7. Find the common factors of the following pairs of numbers.

(a) 12 and 16	(d) 2 and 9	(f) 20 and 5
(b) 8 and 12	(e) 3 and 5	(g) 9 and 21
(c) 4 and 16	(f) 12 and 15	(h) 6 and 27

What do you notice about the common factors of different pairs of numbers. Discuss in class.

8. State whether the following statements are true (T) or false (F).

   (a) Factors of even numbers must be even.

   (b) Multiples of odd numbers cannot be even.

   (c) Factors of odd numbers cannot be even.

   (d) One of the common multiples of two consecutive numbers is their product.

   (e) The only common factor of any two consecutive numbers is 1.

   (f) 0 cannot be a factor of any number.

9. Sher Khan, the tiger, goes hunting every 3rd day. Bagheera, the panther, goes hunting every 5th day. If both of them start on the same day, on which days will they be hunting together?

10. (a) In the trail shown earlier, Sher Khan's house is on number 25 and that of Baloo the bear is on number 30. Mowgli wants to meet his friend Baloo the bear but wants to avoid Sher Khan's house. How long (in steps) could each jump be?

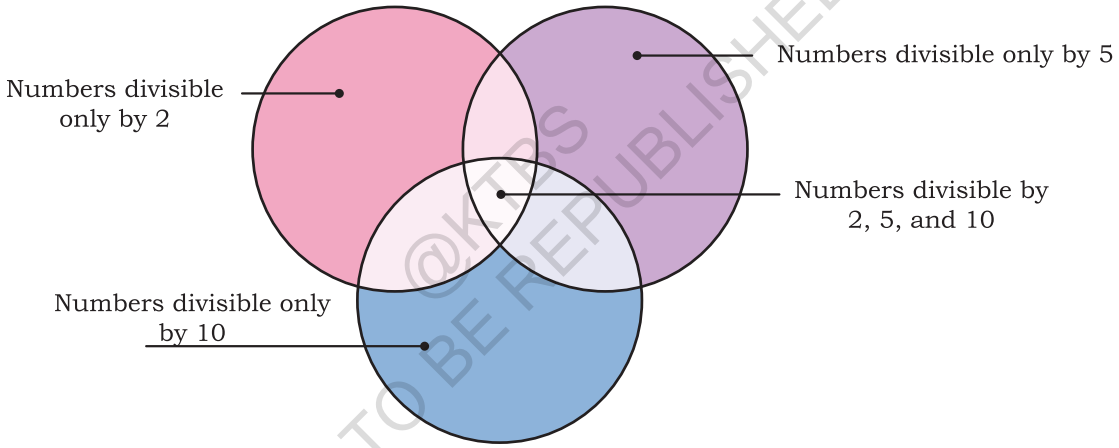
    (b) What number of jumps (in steps) he could choose so that he can meet both Kaa, the snake, at 21 and Akela, the wolf, at 35?

©KTBS NOT TO BE REPUBLISHED

Chapter-13 Animal Jumps.indd 169 7/2/2025 6:19:28 PM

11. Sort the following numbers into those that are—
    (a) divisible by 2 only
    (b) divisible by 5 only
    (c) divisible by 10 only
    (d) divisible by 2, 5, and 10.

90	22	38	30	75
45	66	78	62	40
84	56	25	95	55



@KTDS NOT TO BE REPUBLISHED

Chapter-13 Animal Jumps.indd 170 7/2/2025 6:19:28 PM

Chapter 14

Maps And Locations

0533CH14



Finding Directions ...



I visited the Bharatpur Bird Sanctuary in Rajasthan and saw an amazing bird called the Siberian Crane!





Wow! Do you know that these birds fly all the way from Siberia, a very cold place, to India?



I wonder how they find their path.



Human beings also keep track of directions. One of the ways we figure out directions is by facing the rising Sun. Let's try!



Four Little Chicks

Four Little Chicks of a bird set out to fly,
Spreading their wings they all flew high.
They flew away from East to West,
flew North to South, without any rest.

As they flew and explored the land,
finally, they returned home, hand in hand.
With their mother, they had so much to share,
Our home is the best, beyond compare!"





Manu is facing the rising Sun.

That direction is _____.

His left hand is pointing in the_____ direction.

His right hand is pointing in the _____ direction.

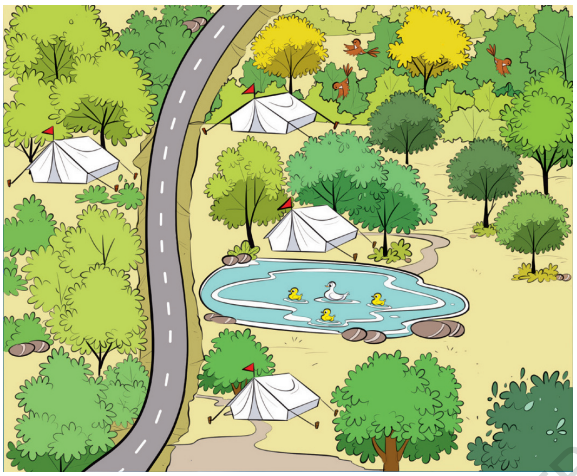
which way is west?

NOT TO BE REPUBLISHED @KTBS

Note for Teachers: Help the learners in naming the four cardinal directions. Ask the children to figure out the directions by facing the rising sun. Also, discuss with them other ways of finding directions, such as using a compass. To spark curiosity, you may talk about or encourage the learners to find out how birds find their directions during migration.

Bird Watching!

Children are at a bird-watching camp. Read the clues and colour the tents in the camp accordingly.



The tent to the west of the road is blue.
The tent closest to the lake is green.
The tent north of the green tent is purple.
The tent south of the lake is yellow.
Now, draw a tent to the east of the lake.



@KTBS NOT TO BE REPUBLISHED

Map of a Room

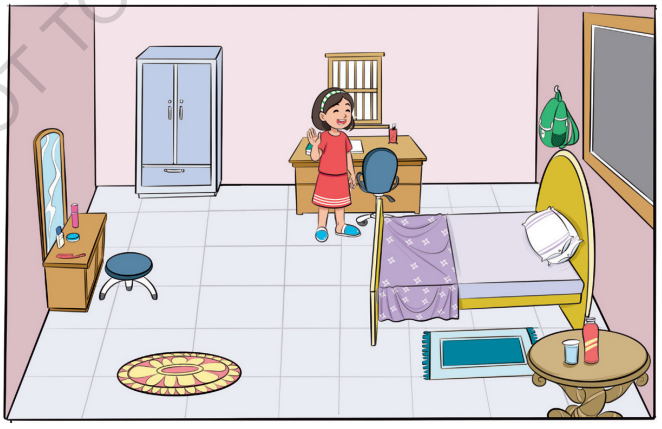
Write the directions of the following in relation to the girl.

Window _____

Bed _____

Cupboard _____

Bedside table _____





Chapter-14 Maps and Locations.indd 172 7/2/2025 6:19:55 PM

Make a drawing of your room and locate the direction in which different things have been placed in relation to you standing at the centre of the room. Make the direction arrow for your room.

Write the names of the things that are placed in the following directions.

East_____

West_____

North_____

South _____

@KTBS NOT TO BE REPUBLISHED

Zoo Trip

Children! Be ready at your nearby bus stop by 8:00 a.m. The school bus will take you to the Qutb Minar in Delhi. After that, we will visit the zoo by a metro train.



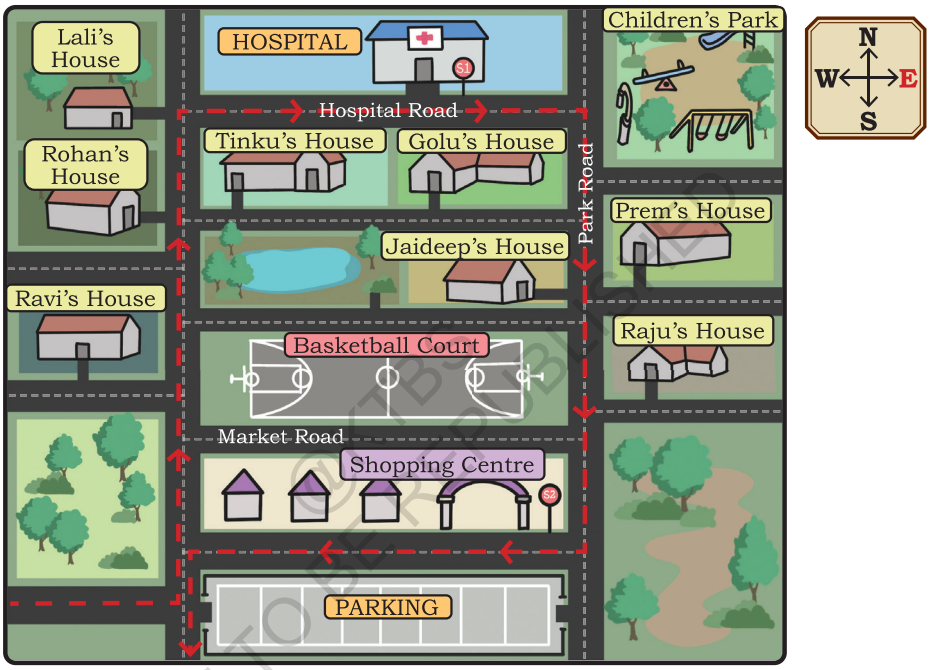
The street map shows the bus route with dotted lines. The bus will pick up children from Stop 1 and Stop 2 marked on the map.

Observe the map carefully and help the children board the bus.

Bus Route

The bus will start from the parking area. It will go north and then it will take a right turn onto _____ Road driving in the _____ direction to reach Stop 1(S1).

To reach Stop 2(S2), it will turn _____ (right/left) onto _____ Road driving in the _____ direction.



(a) Whose houses are situated to the east of Jaideep's house?_____

(b) Mark the route from Ravi's house to the children's park.

(c) Which stop is closer to Lali's house? _____

(d) Golu is running late. Trace the route to help him reach the nearest bus stop.

(e) In which direction would Prem have to move to reach Stop 2?

Note for Teachers: Encourage the learners to read the street map. Ask them to discuss the distances and directions on the map. Encourage the learners to ask questions by looking at the map.

© CBSE NOT TO BE REPUBLISHED

Chapter-14 Maps and Locations.indd 174 7/2/2025 6:19:56 PM

Delhi Metro Train Stations

Children will get off the bus at the Qutb Minar metro station. To reach the zoo, they need to get off the metro at the Supreme Court metro station.

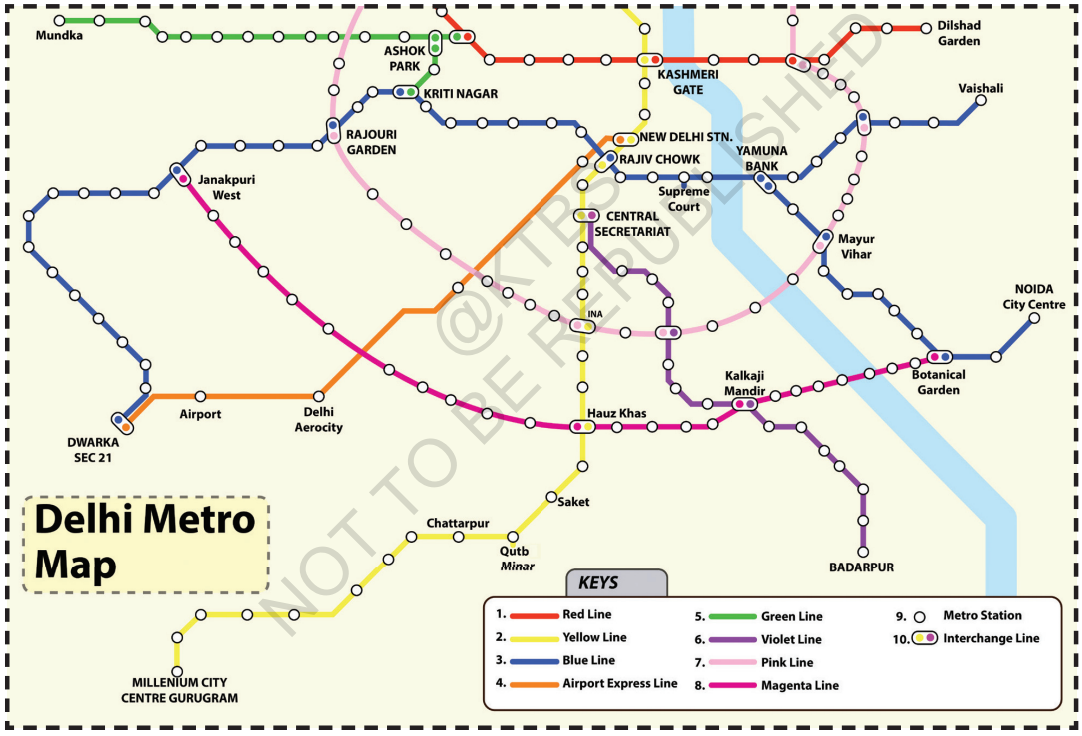
Here is the metro map for your reference.

Read the key to the symbols and identify them on the map.

What do the different coloured lines represent?

Mark the Qutb Minar station on the Yellow Line and the Supreme Court station on the Blue Line.

Metro Map



@KTBS NOT TO BE REPUBLISHED

Study the map carefully and answer the questions that follow.

Note for Teachers: Encourage the learners to observe the metro map carefully. Let them understand what different symbols mean on the map. Discuss with them that the coloured lines indicate different metro routes, making it easier for passengers to identify and navigate the routes. Let the learners work in groups to answer the questions.

Chapter-14 Maps and Locations.indd 175 7/2/2025 6:19:58 PM

(a) Look at the metro map and trace different routes from the Qutb Minar metro station to the Supreme Court metro station.

(b) Lali says, "We can take the Yellow Line and change the metro at Hauz Khas to take the Magenta Line."

If the children follow Lali's suggestion, at which station(s) do they need to change the metro line again to reach the Supreme Court metro station?

(c) Which route has the least number of stations between Qutb Minar and Supreme Court?

(d) Which metro route(s), do you think, is/are the best way to reach the zoo from Qutb Minar? _____

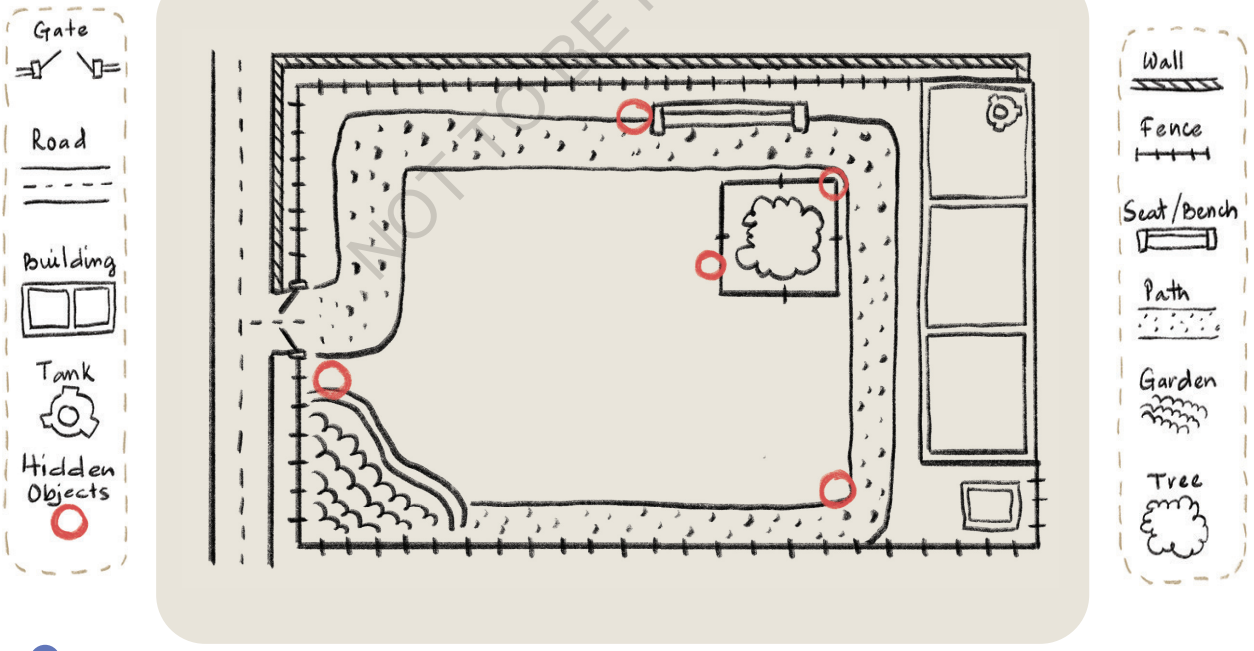
Let Us Do

Make a map showing the different places in your school. Make a key for the symbols used in the map. Hide some objects in these places.

Mark the positions where things are hidden with red dots or flags. Now, challenge your friends to find the hidden things by reading the map.

A sample map and its key are given below.

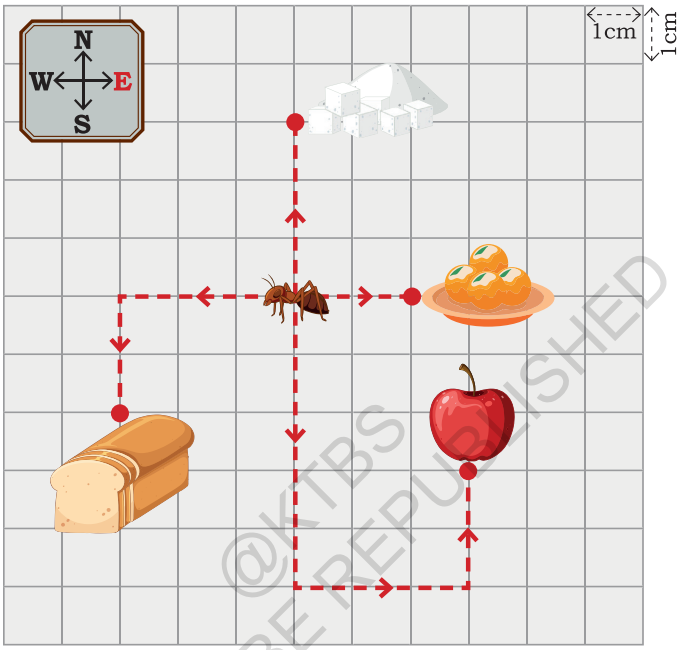
@KIDS NOT TO BE REPUBLISHED



Chapter-14 Maps and Locations.indd 176 7/2/2025 6:19:59 PM

Anthill in the Zoo

To collect food, the ant can only crawl along the dotted lines on the grid. The arrows show the direction in which the ant can move.



@KTBS NOT TO BE REPUBLISHED

Fill in the blanks below with the distances and the directions in which the ant must move from its starting position.

(a) To get to the laddoos, the ant has to crawl 2 cm towards the east.

(b) To get to the sugar, the ant has to crawl ____cm in the _____direction.

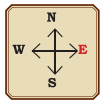
(c) To get to the bread, the ant has to crawl ____cm in the _____ direction; then ____cm in the _____direction.

(d) To get to the apple, the ant needs to crawl _____cm towards _____, and then ____cm towards _____, and finally ___cm towards_____.

Identify other routes to reach the point where apple is located. Which one is the shortest?

Chapter-14 Maps and Locations.indd 177 7/2/2025 6:19:59 PM

Locating the Animals in the Zoological Park (Zoo)

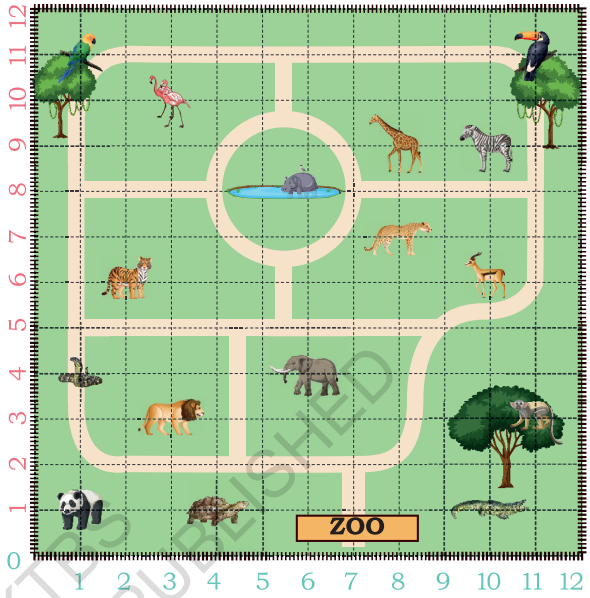


Children observe a map of the zoo drawn on a grid. Each vertical line (column) and horizontal line (row) is marked with a number.

To reach the Panda, we will start from zero. Move one step horizontally east and reach the first column.

Move up (vertically) one step north and reach the first row.

The panda is where the first row and the first column meet.



First move horizontally from 0 and then vertically.

©KTBS NOT TO BE REPUBLISHED

We write the meeting point of the first row and the first column as (1,1).

To reach the tortoise, move _____ steps towards east and reach the _____ column.

Then move _____ step(s) _____ and reach the first _____.

The location of the tortoise is (4,1). What is at (1,4)?

Answer the following questions now—

1. Locate the animal at the following positions on the map.

   (a) (11,11) _____ (c) (6,4) _____ (e) (11,3) _____

   (b) (2,6) _____ (d) (3,10) _____ (f) (10,9) _____

2. Write the position of the following animals on the map.

   (a) Lion _____ (c) Tortoise _____ (e) Panda _____

   (b) Elephant ____ (d) Deer _____ (f) Crocodile _____

3. Place dots of different colours on the following positions.

   (a) (8,3) (Red) (c) (7,3) (Blue) (e) (8,6) (Black)

   (b) (2,9) (Green) (d) (3,8 (Orange) (f) (6, 6) (Pink)

Chapter-14 Maps and Locations.indd 178 7/2/2025 6:20:00 PM

Chapter 15

Data Through Pictures

0533CH15



Child TV Reporter

Samaira and Kabir decided to act like reporters and collect information from their friends.





They collected data from 35 friends and recorded it in a notebook as shown below.

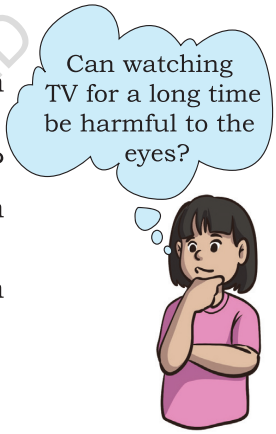


© KTBS NOT TO BE REPUBLISHED

No. of Hours Spent Watching TV	No. of Children
$\frac{1}{2}$ hour	
1 hour	
$1\frac{1}{2}$ hour	
2 hours	
More than 2 hours	

Look at the table and answer the following questions.

1. How many children watch TV for more than half an hour?
2. How many children watch TV for less than two hours?
3. The number of children who watch TV for more than two hours is _____.
4. More children watch TV for two hours than half an hour. (True/False)



@KTES NOT TO BE REPUBLISHED

Stock-Taking in a Shop

Joseph Uncle takes stock of the play items (toys, board games, and sports items) in his store a week before the summer break. He tries to record the items in his shop using a pictograph.



He notices that there are too many items of each kind in his shop and it is not easy to make a picture for every item.

Suggest some ways to him.

Chapter-15 Data through pictures.indd 180 7/2/2025 6:34:25 PM

Dipesh, one of his helpers, suggested using one picture (icon) for every 5 items of each kind.



His pictograph is shown below.

Name of the Item	Number of Items
Toys	
Board games	
Sports items	

Dipesh used a scale while recording the items in the pictograph. A scale helps record a large number of things using fewer icons.

Now, answer the following questions based on the above pictograph.

(1) How many toys does Joseph Uncle have? _____

(2) How many board games does Joseph Uncle have? _____

(3) How many total play items does Joseph Uncle have? _____

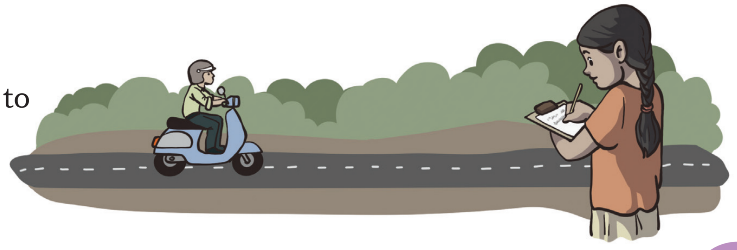
Is there any other scale that you can use to make the pictograph? Choose your scale and show the same data using a pictograph in your notebook.

© NCERT NOT TO BE REPUBLISHED

Two-wheelers on the Road

Deepti noted down the number of two-wheelers passing her house in one hour on three different days.

She used one icon () to show 3 two-wheelers.



Day	Number of Two-wheelers = 3 two-wheelers
Monday	
Wednesday	
Friday	

Observe the pictograph and answer the following questions.

1. Which day had the most two-wheelers passing her house? _____
2. How many total two-wheelers did she record over three days? _____
3. How many fewer two-wheelers were seen on Wednesday than on Monday? _____
4. How many more two-wheelers were seen on Friday than on Wednesday? _____
5. Choose any other scale and represent the same data using a pictograph in your notebook.

@KTBS NOT TO BE REPUBLISHED

Recording a Day

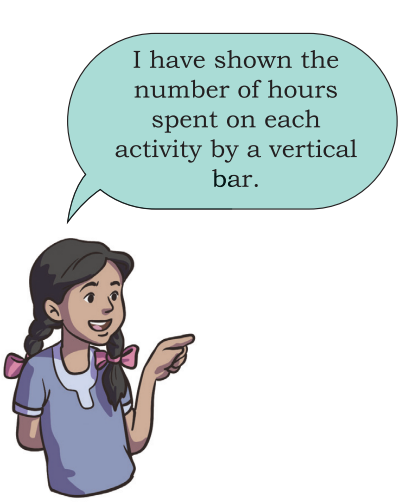
One day Raman and Sheela decided to record how they spent their day.

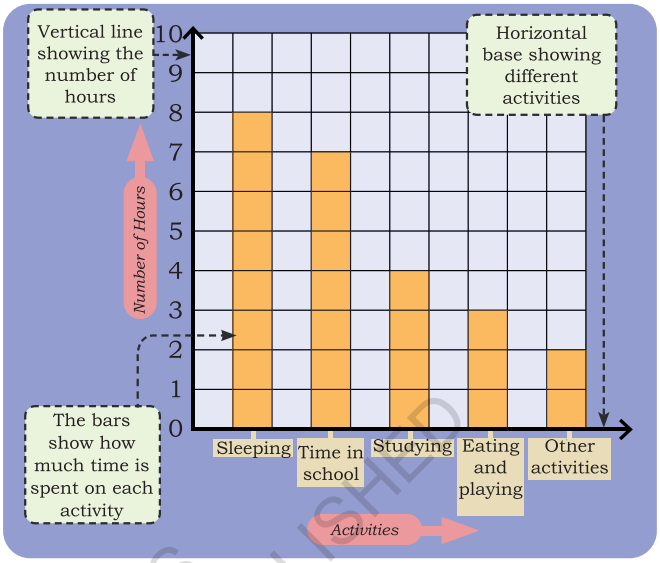
Raman recorded his daily routine in the table below.

Activites	No. of Hours (=1 hour)
Time spent sleeping	
Time in school	
Time spent studying	
Time spent eating and playing	
Other activities	

Chapter-15 Data through pictures.indd 182 7/2/2025 6:34:27 PM

Sheela recorded her routine in the following manner.





How is Sheela's recording different from Raman's recording? Discuss in class.

Sheela's way of recording the data is called a **bar graph**.

Observe Raman's and Sheela's routines and answer the following questions.

1. Whose daily routine shows more time spent on sleeping? _____
2. Who spends more hours in the school? _____
3. How many more hours does Sheela spend studying compared to Raman? _____
4. Is there any activity on which they spend the same amount of time? If yes, name the activity _____
5. Based on their data, whose routine do you think is more balanced? Why? _____

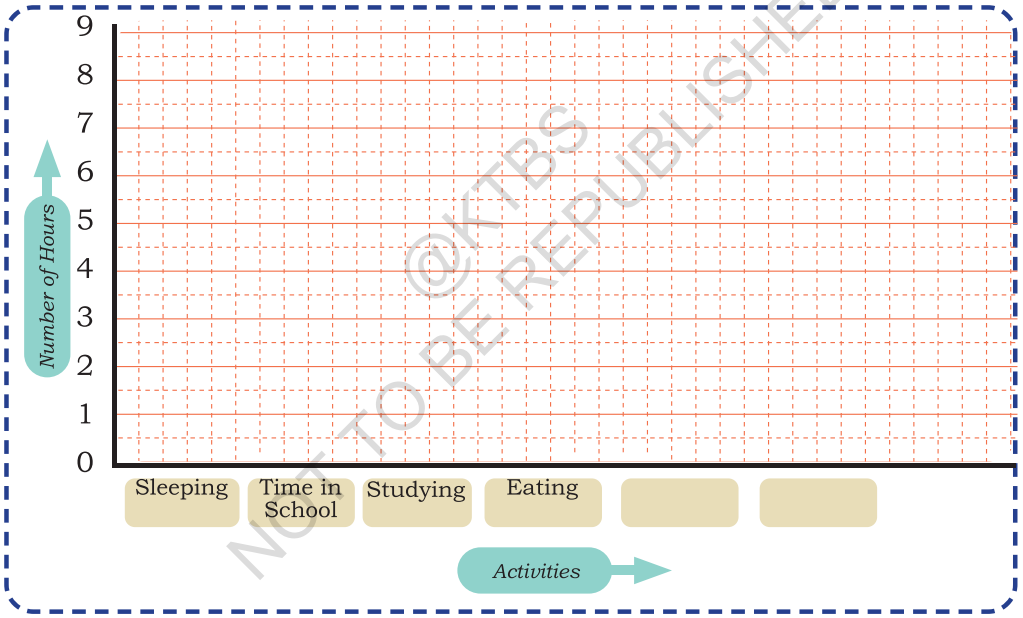
Day in My Life

Record your daily routine (24 hours) in hours and minutes, as necessary. Note the time spent on activities like sleeping, studying, playing, eating, and others.

© KTBS NOT TO BE REPUBLISHED

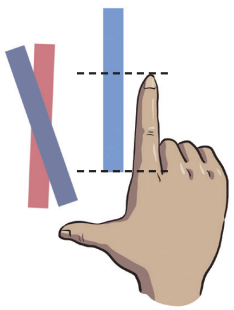
Activity	No. of Hours
Sleeping	
Time in school	
Studying	
Eating	

Make a bar graph of the time you spend on different activities in the space given below.



© KITBS NOT TO BE REPUBLISHED

Whose Index Finger is Longer?

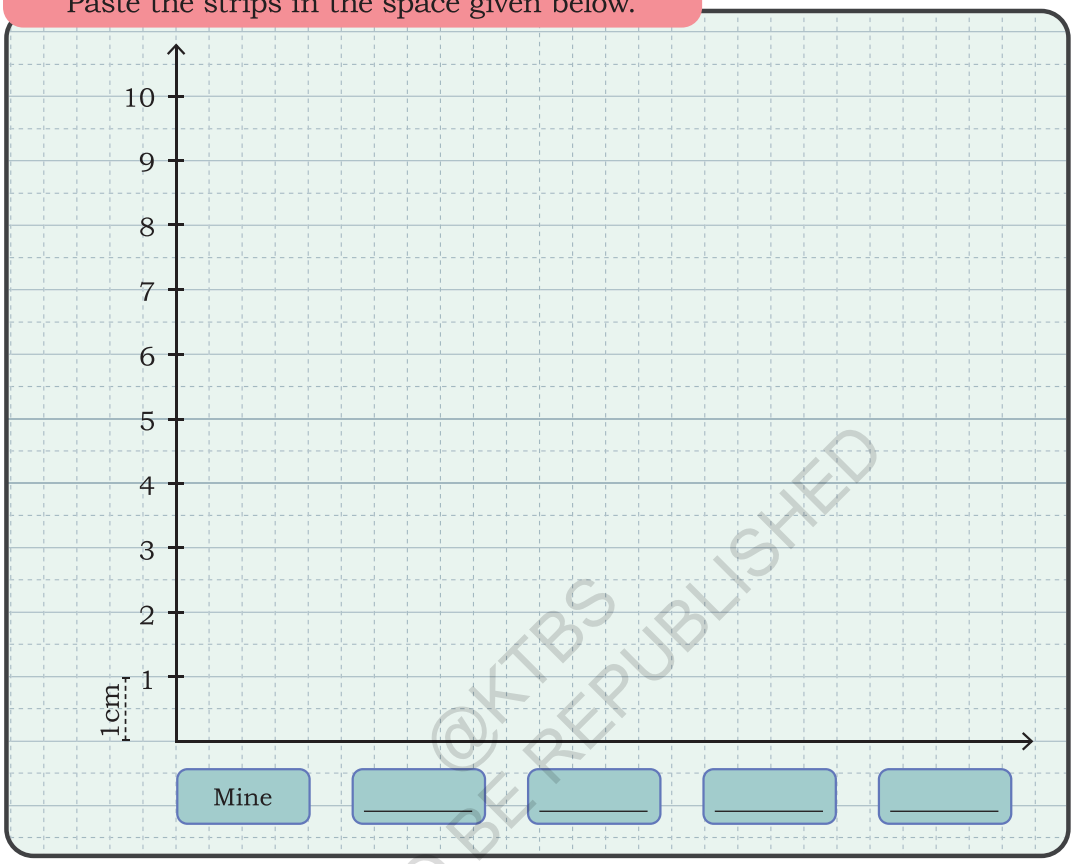


Cut long paper strips from waste paper. Give one strip (each of the same width) to each of your friends. Now, put the paper strip on your index finger and tear off the extra strip extending above your fingers.

Paste these paper strips along the horizontal line in the given bar graph.

Chapter-15 Data through pictures.indd 184 04-07-2025 12:34:52

Paste the strips in the space given below.



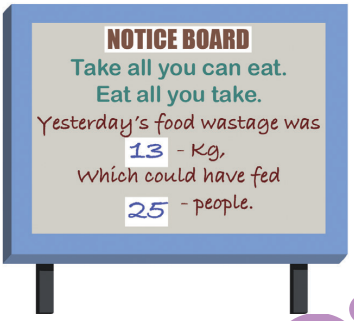
© KTBS NOT TO BE REPUBLISHED

Write the answers to the following questions based on your graph.

1. Whose index finger is the longest? _____ .
2. The length of the longest index finger is _____ cm.
3. The smallest index finger is _____ cm long.
4. It belongs to _____.

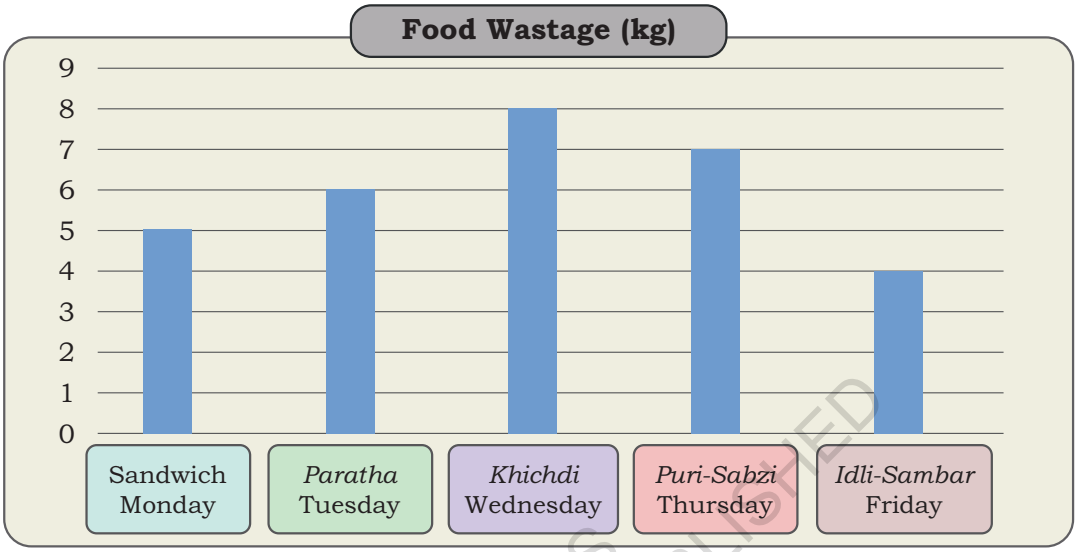
Food Wastage in the School Canteen

Rani stays in a residential school. Her school's dining hall displays the amount of food wasted and the number of children the food could have fed.



Chapter-15 Data through pictures.indd 185 7/2/2025 6:34:28 PM

Given below is the data collected over the weekdays for different food items.



Rani was shocked to see the data. What do you think about food wastage? How can we reduce the wastage of food? What can we do with the leftover food?

Observe the above graph and answer the following questions.

1. Which food item had the highest amount of wastage? _____
2. Which food item had the least amount of wastage? _____
3. How much total food wastage was recorded in these days? _____
4. If 1 kg of food waste can feed 3 children, how many children could have been fed with the total food wasted? _____
5. _____ day had less food wastage than _____ day.
6. If the same food items are to be repeated next week, can you predict which food item is likely to be wasted the most?

© KVBS NOT TO BE REPUBLISHED

Chapter-15 Data through pictures.indd 186 7/2/2025 6:34:28 PM

True or False



Observe the above picture carefully. Based on your observation, find out which of the following statements are true or false.

© KTBS NOT TO BE REPUBLISHED

All girls are wearing glasses. ☐ TRUE ☐ FALSE	10 children are wearing caps on their heads. ☐ TRUE ☐ FALSE
More boys are holding books than girls. ☐ TRUE ☐ FALSE	More than half of the children are wearing glasses. ☐ TRUE ☐ FALSE
The number of children holding books is greater than the number of children wearing caps. ☐ TRUE ☐ FALSE	The number of boys wearing glasses is greater than the number of girls wearing glasses. ☐ TRUE ☐ FALSE
Some children are wearing both glasses and caps. ☐ TRUE ☐ FALSE	There is no child who has all three items— a cap, a book and a backpack. ☐ TRUE ☐ FALSE

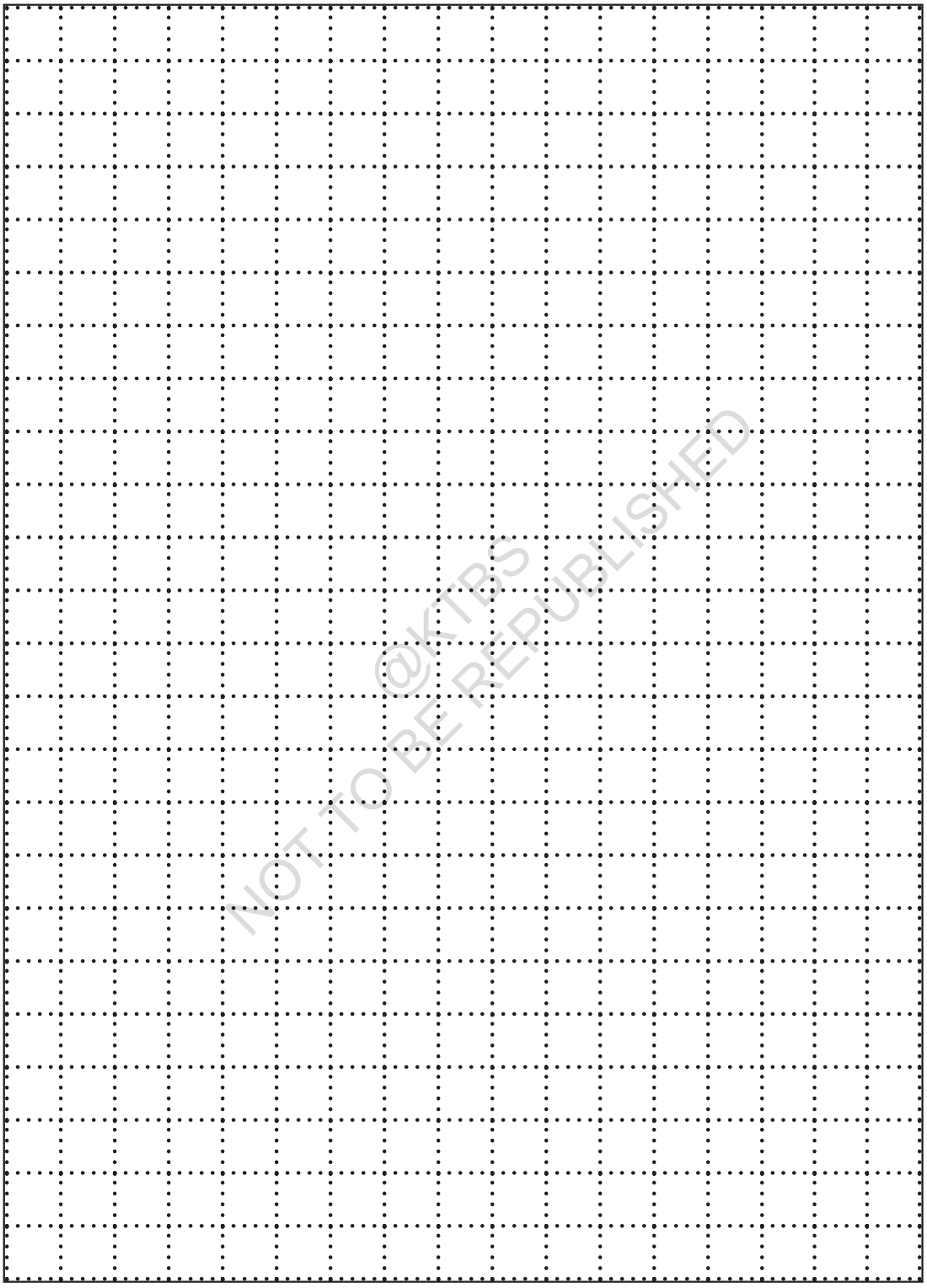
Chapter-15 Data through pictures.indd 187 7/2/2025 6:34:28 PM

Notes

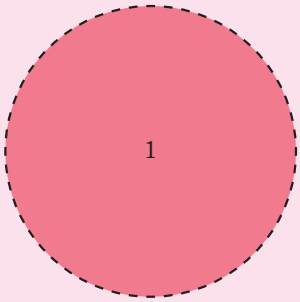
@KTBS
NOT TO BE REPUBLISHED

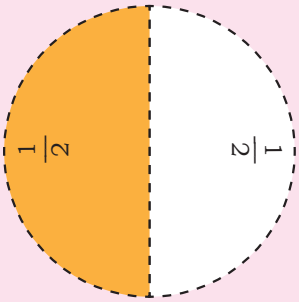
Notes

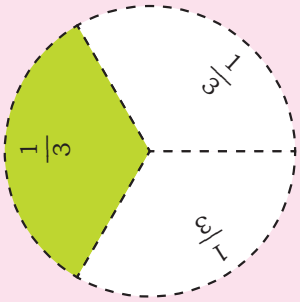
@KTBS
NOT TO BE REPUBLISHED

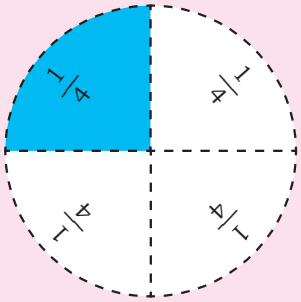

@KTBS
NOT TO BE REPUBLISHED

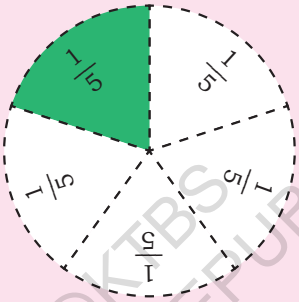
Fractions Kit

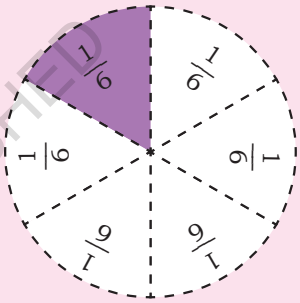


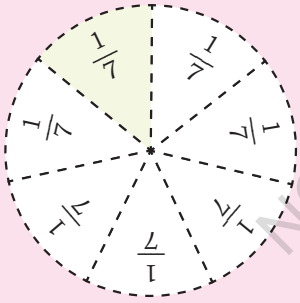


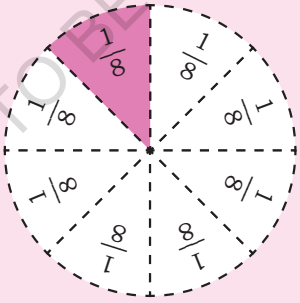


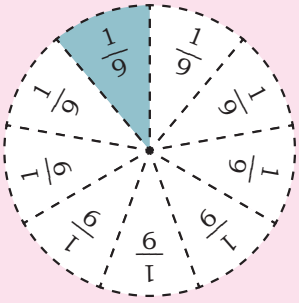


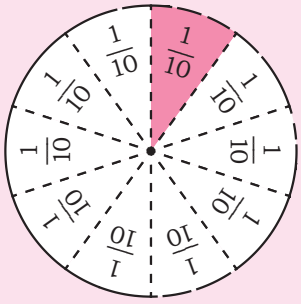


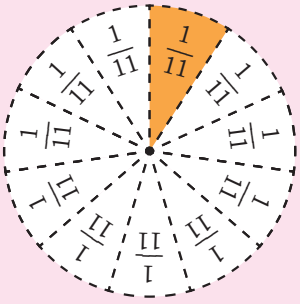


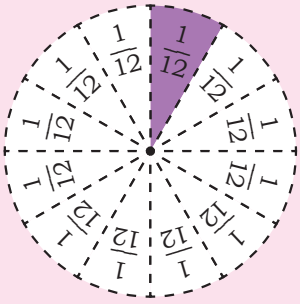








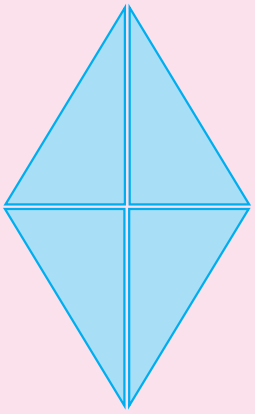


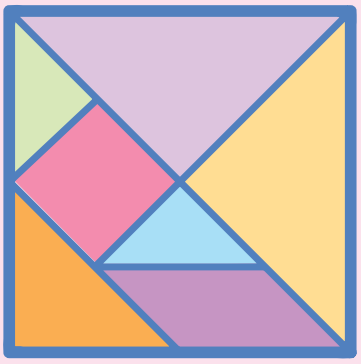


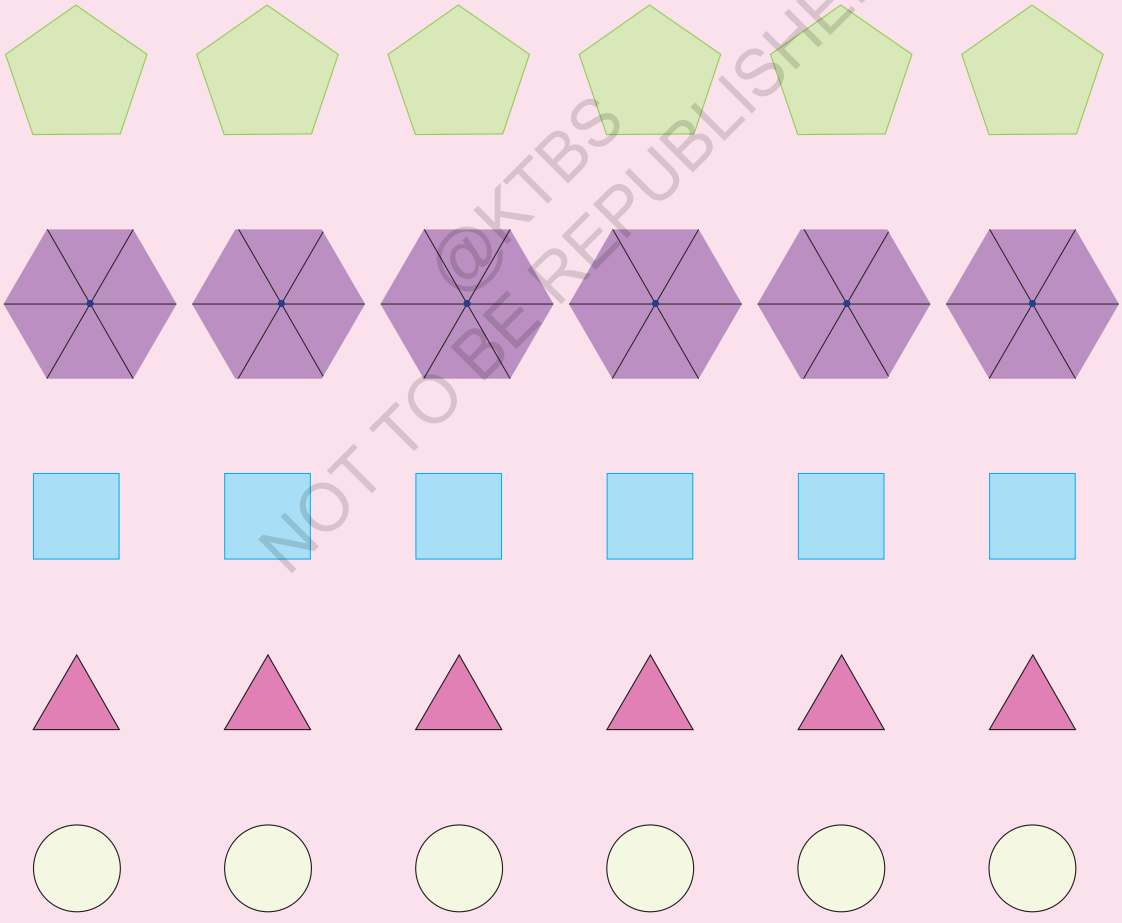
@KTBS
NOT TO BE REPUBLISHED

@KTBS
NOT TO BE REPUBLISHED

Tessellation and Shapes



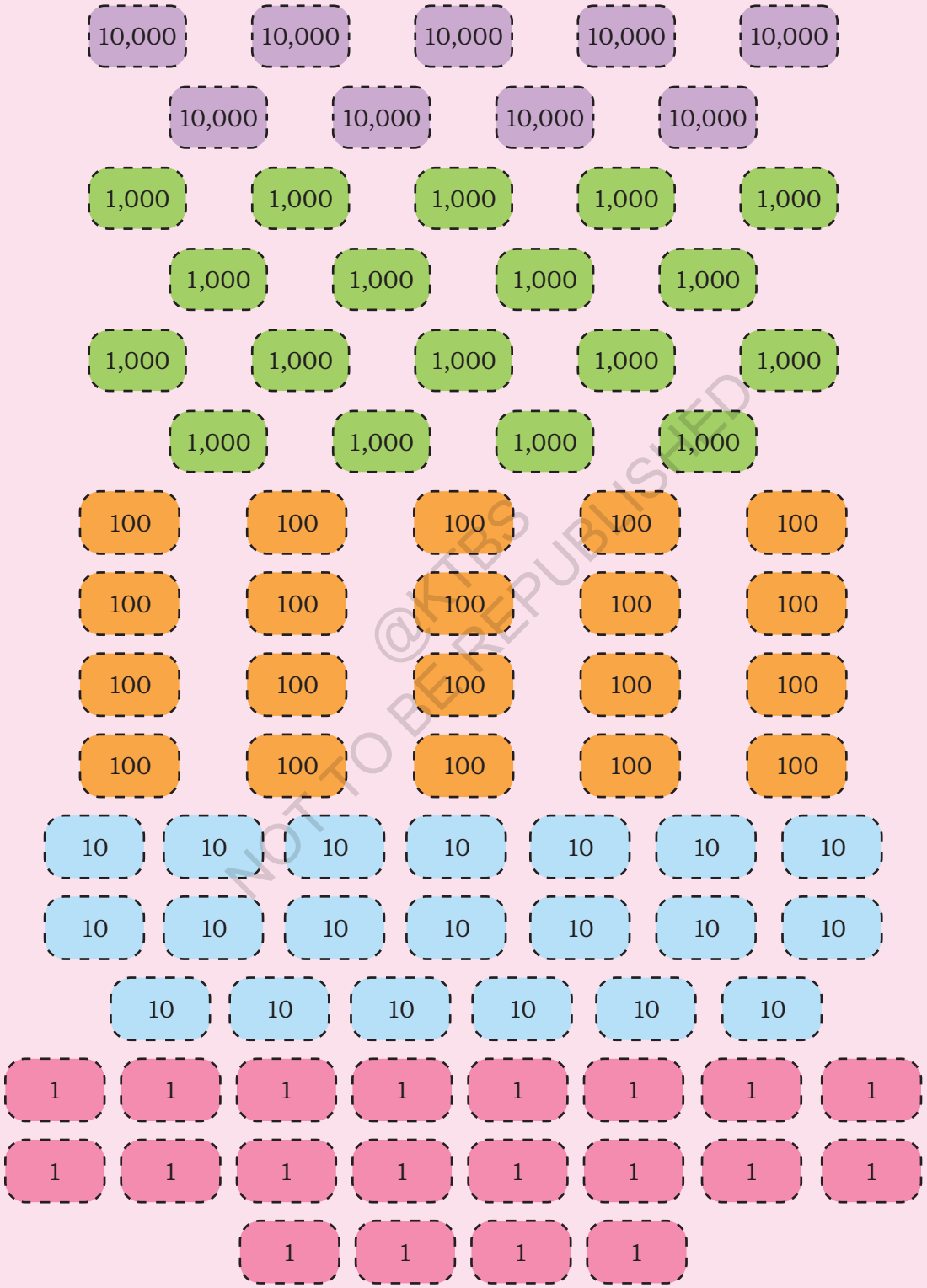




©KTBS
NOT TO BE REPUBLISHED

@KTBS
NOT TO BE REPUBLISHED

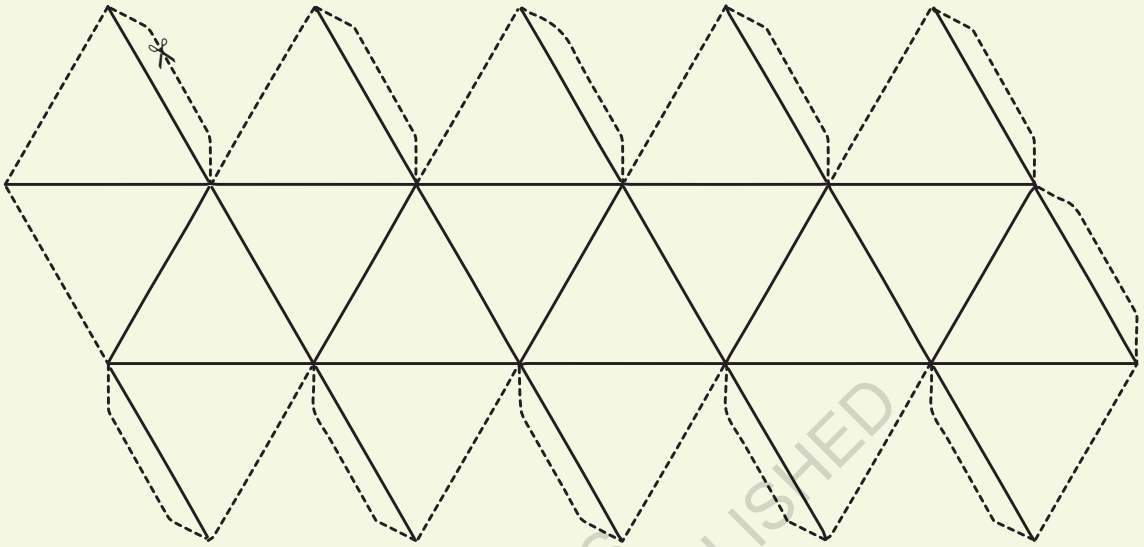
Number Tokens



@KTBS NOT TO BE REPUBLISHED

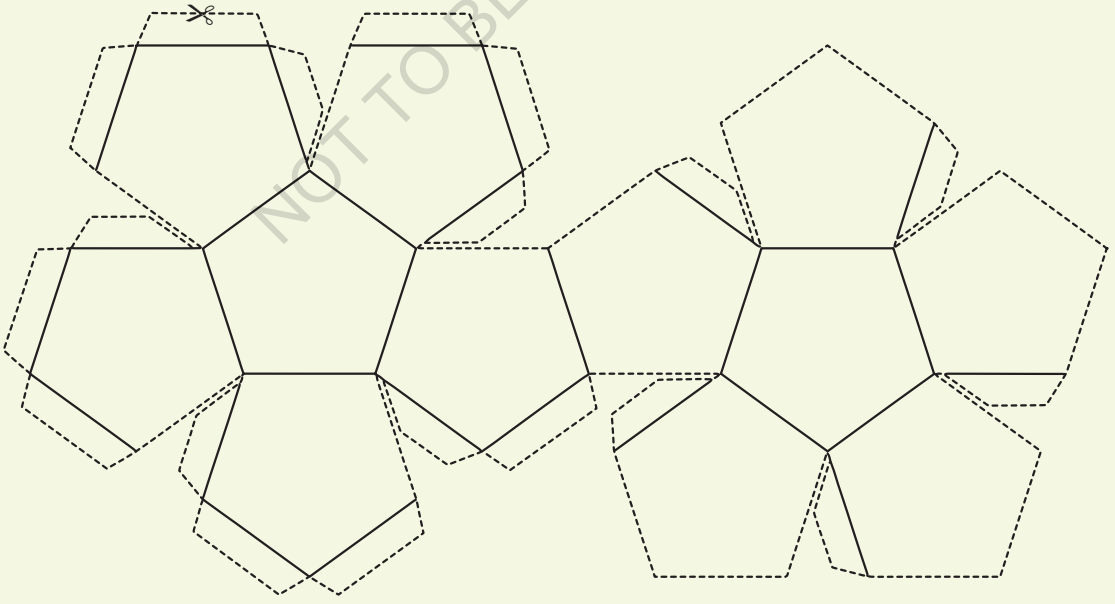
@KTBS
NOT TO BE REPUBLISHED

Cut along the dotted lines and fold along the solid lines



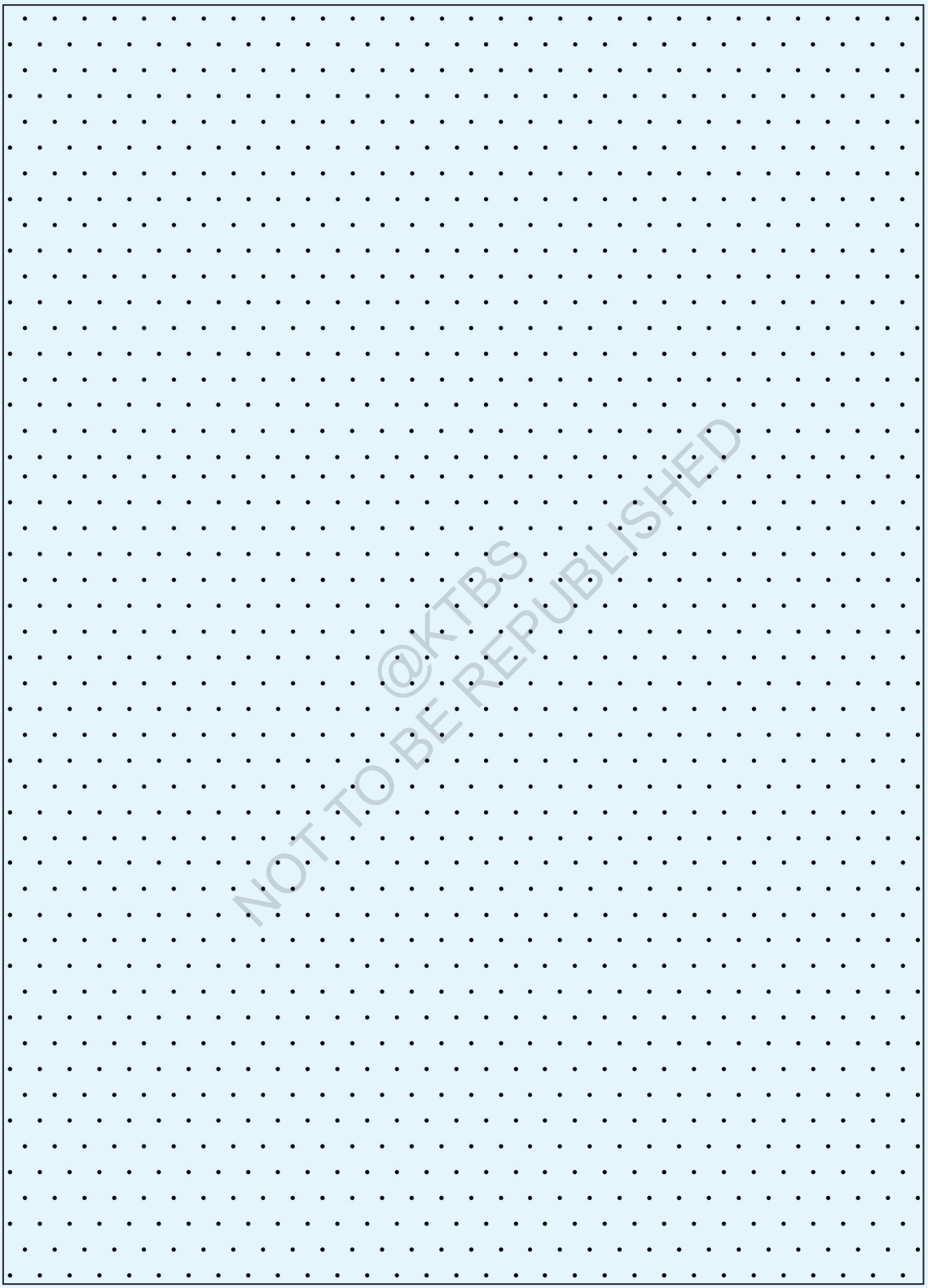
Net of a Icosahedron

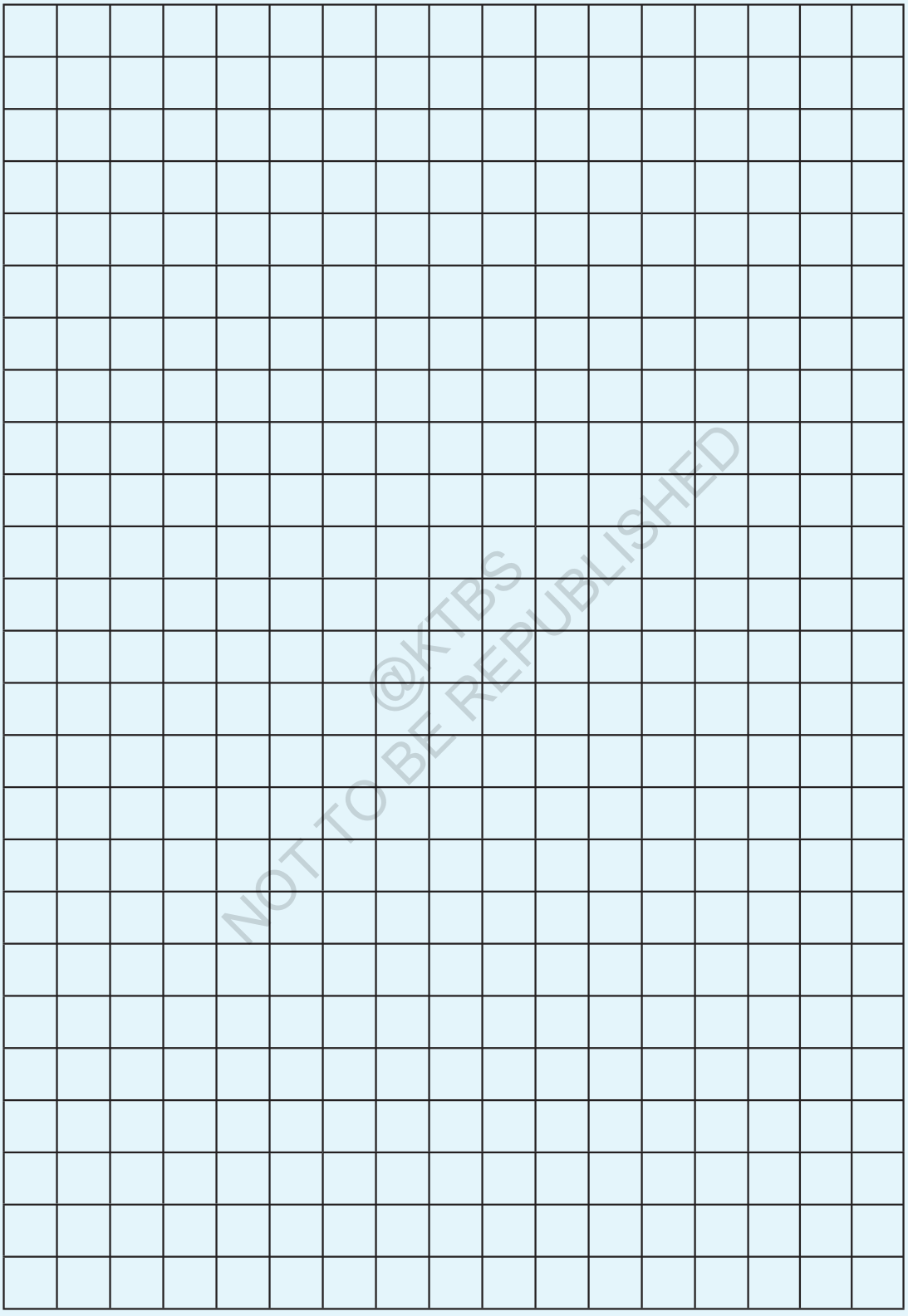
@KTBS
NOT TO BE REPUBLISHED



Net of a Dodecahedron

@KTBS
NOT TO BE REPUBLISHED


@KTBS
NOT TO BE REPUBLISHED


@KTBS
NOT TO BE REPUBLISHED

Constitution of India

Part IV A (Article 51 A)

Fundamental Duties

It shall be the duty of every citizen of India —

(a) to abide by the Constitution and respect its ideals and institutions, the National Flag and the National Anthem;

(b) to cherish and follow the noble ideals which inspired our national struggle for freedom;

(c) to uphold and protect the sovereignty, unity and integrity of India;

(d) to defend the country and render national service when called upon to do so;

(e) to promote harmony and the spirit of common brotherhood amongst all the people of India transcending religious, linguistic and regional or sectional diversities; to renounce practices derogatory to the dignity of women;

(f) to value and preserve the rich heritage of our composite culture;

(g) to protect and improve the natural environment including forests, lakes, rivers, and wildlife, and to have compassion for living creatures;

(h) to develop the scientific temper, humanism and the spirit of inquiry and reform;

(i) to safeguard public property and to abjure violence;

(j) to strive towards excellence in all spheres of individual and collective activity so that the nation constantly rises to higher levels of endeavour and achievement;

*(k) who is a parent or guardian, to provide opportunities for education to his child or, as the case may be, ward between the age of six and fourteen years.

Note: The Article 51A containing Fundamental Duties was inserted by the Constitution (42nd Amendment) Act, 1976 S.11 (with effect from 3 January 1977).

*(k) was inserted by the Constitution (86th Amendment) Act, 2002 S.4 (with effect from 1 April 2010).

@KVS NOT TO BE REPUBLISHED