

<b>Scheme of Work 2021 - 2022</b>  <b>Subject: Mathematics Class 5<sup>th</sup></b>		Rev. No.:
<b>Book: Punjab Curriculum Text Board (PCTB)</b>		Date:
<b>Term: Final Term</b>		

<b>Week</b>	<b>Content</b>
1 <sup>st</sup>	<b>Text Book:</b> Distance and Time (Pg # 2-5)
2 <sup>nd</sup>	<b>Text Book:</b> Exercise 3 (Pg # 6-9)
3 <sup>rd</sup>	<b>Text Book:</b> Geometry (Pg # 10 - 13)
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5 <sup>th</sup>	<b>Text Book:</b> Exercise 4 (Pg # 17 – 19)
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7 <sup>th</sup>	<b>Text Book:</b> Perimeter (Pg # 24 –26)
8 <sup>th</sup>	<b>Text Book:</b> Exercise 2 + Review Exercise (Pg # 27 –30)
9 <sup>th</sup>	<b>Revision (4<sup>th</sup> week of January)</b>
10 <sup>th</sup>	<b>Final Year Exams (1<sup>st</sup> week of February)</b>

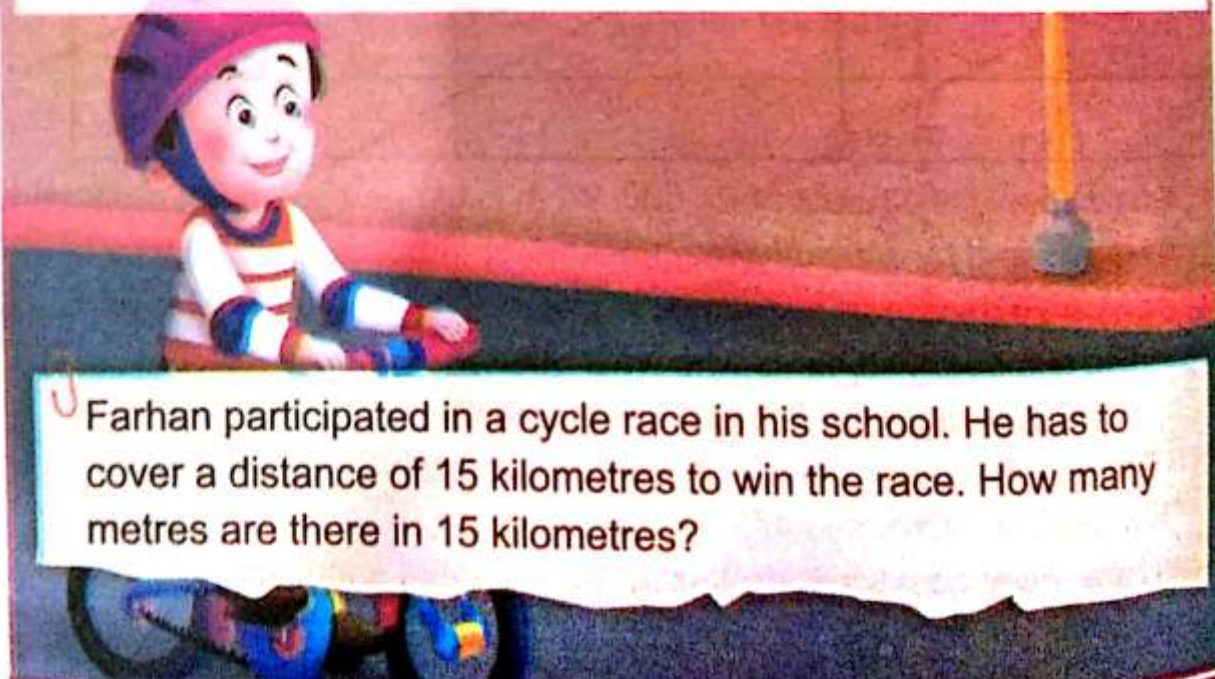
# Unit 5

## Distance and Time

### Learning Outcomes

After completing this unit, you will be able to:

- Convert measures given in
  - kilometres into metres and vice versa
  - metres into centimetres and vice versa
  - Centimetres into millimetres and vice versa.
- Solve real life situations involving conversion, addition and subtraction of measures of distance
- Convert
  - hours into minutes and vice versa
  - minutes into seconds and vice versa
- Convert
  - years into months and vice versa
  - months into days and vice versa
  - weeks into days and vice versa
- Add and subtract intervals of time in hours and minutes with carrying and borrowing.
- Solve real life situations involving conversion, addition and subtraction of intervals of time.



Farhan participated in a cycle race in his school. He has to cover a distance of 15 kilometres to win the race. How many metres are there in 15 kilometres?



Petronas Twin Towers in Malaysia are 452m high. While Burj Khalifa in Dubai is 828 metres high. What is the difference between their heights?



To find the difference, we will subtract their heights.



Height of Burj Khalifa = 828 m

Height of Petronas Towers = 452 m

Difference between heights = 376 m



### Try Yourself

Solve the following distances:

- i) 670 m – 450 m
- ii) 83 km 219 m – 51 km 340 m
- iii) 32 cm 3 mm – 9 cm 4 mm

So, the difference between the heights of Petronas Twin Tower and Burj Khalifa is 376 m.

## Exercise 1



1. Convert the following units of distance as directed:

- a) 34 km into m
- b) 74 km 930 m into m
- c) 1 970 m into km
- d) 5 890 m into km and m
- e) 67 m into cm
- f) 650 m 46 cm into cm
- g) 840 cm into m
- h) 107 cm into mm
- i) 99 cm 6 mm into mm
- j) 70 mm into cm
- k) 485 mm into cm and mm
- l) 900 m into cm



2. To celebrate the independence day, Madeeha bought 4m 35 cm green colour cloth to stitch green shirt. For shawl and trouser, she bought 6m 79 cm white colour cloth. How many centimetres of cloth did she buy altogether?
3. Ahmad bought 140 cm ribbon to pack the gift box. How many millimetre ribbon he bought?
4. The lengths of the two ropes are 17 cm 9 mm and 80 cm 6 mm.
- What is the difference between the length of two ropes?
  - What is the total length of two ropes in millimetres?
5. In a hospital, two halls are constructed for patients, where medical aid will be give to them. The length of one hall is 276 m 20 cm and the length of the other hall is 689 m 98 cm. what is the total length of both halls?
6. The distance between Ahmer's house to masjid is 4 km 196 m, the distance between Ali's house to masjid is 5 km 298 m. Whose house is nearer to the masjid and by how much?
7. The park near Waleed's house is 2 km 117 m long and the park near Maheen's house is 3 km 214 m long. What is the difference between the length of two parks in metres?

## Conversion of Units of Time

### Conversion of Hours to Minutes



Farhan completes a science project in 4 hours. In how many minutes does he complete the project?

To find the time duration of the project in minutes, we will multiply 4 hours by 60.



$$4 \text{ hr} = 4 \times 60 \text{ min} = 240 \text{ min}$$

**Key Fact**

1 year = 12 months

1 month =  $\frac{1}{12}$  year

- To convert years into months, multiply by 12.
- To convert months into years, divide by 12.

Convert 120 months into years.

120 months =  $120 \div 12$  years

$$= 120 \times \frac{1}{12}$$

= 10 years

So, the number of years in 120 months is 10 years.

**Try Yourself**

Ahmad is 18 years old.  
Find his age in months.

**Exercise 2**

1. Convert the given units of time as directed:

a) 45 hr into min

e) 64 min into sec

b) 240 hr 56 min into min

f) 180 min into sec

c) 960 min into hr

g) 544 sec into min and sec

d) 440 min into hr and min

h) 600 sec into min

2. Convert the following as directed:

(a) 56 years into months

f) 12 weeks 6 days into days

(b) 34 years 10 months into months

g) 49 days into weeks

(c) 48 months into years

h) 180 days into months

(d) 56 months into years and months

i) 67 months into days

(e) 78 weeks into days

j) 44 months 29 days into days



Days spent in grandmother's home	=	15 <sup>(4)</sup> weeks 5 <sup>(7)</sup> days
Days spent in Aunt's home	=	- 6 weeks 6 days
<hr/>		
Difference	=	8 weeks 6 days



### Key Fact

1 week = 7 days  
when we borrow  
one week to days,  
we add 7 at days  
column.

Ahmad spends 8 weeks 6 days more in his grandmother's home than in his aunt's home.

To convert 8 weeks 6 days into days, first we will convert weeks into days and add 6 days in it.

$$8 \text{ weeks } 6 \text{ days} = 8 \text{ weeks} + 6 \text{ days}$$

$$= 8 \times 7 \text{ days} + 6 \text{ days}$$

$$= 56 \text{ days} + 6 \text{ days}$$

$$= 62 \text{ days}$$



### Key Fact

To subtract the units of time, always subtract the same units.



### Try Yourself

Subtract the given units of time

i) 3 years, 12 years 6 months

ii) 8 hours 56 minutes, 7 hours 12 minutes

So, Ahmad spends 62 more days in his grandmother's home.

## Exercise 3

1. Solve the following:

a) 3 hr 20 min + 5 hr 43 min    b) 13 min 12 sec + 15 min 19 sec

c) 33 years 8 months + 40 years 11 months

d) 2 weeks 3 days + 8 weeks 1 day    e) 117 months + 7 months

f) 8 months 12 days + 2 months 14 days

2. Solve the following:

a) 16 hr 49min - 3 hr 53 min

b) 44 min 44 sec - 36 min 16 sec

c) 8 weeks 1 day - 2 weeks 3 days    d) 17 months - 10 months 12 days

e) 40 months 28 days - 38 months 17 days



Give flash cards of units of time to the students and ask them to add and subtract. Also ask them to convert the units.

3. A train takes 5 hours 56 minutes to travel from Multan to Lahore and 6 hours 22 minutes to travel from Lahore to Rawalpindi. How much time does it take to travel from Multan to Rawalpindi?
4. To complete one Science project, Hammad takes 2 weeks and 5 days and to complete another project he takes 1 week and 6 days. Which project takes more time and how much?
5. Kamal's age is 10 years 5 months old and his friend's age is 11 year and 8 months. What is the difference between their ages in months?
6. Umer takes 3 hours 12 minutes to solve complete Mathematics homework and 1 hour 50 minutes to complete English homework.
  - a) How much time does he take to complete both tasks in minutes?
  - b) In which subject, does he spend more time and how much more?

Conversion Table	
1 km	1000 m
1 m	100 cm
1 cm	10 mm
1 hr	60 min
1 min	60 sec
1 week	7 days
1 month	30 days
1 year	12 months

Conversion Table	
1 m	$\frac{1}{1000}$ km
1 cm	$\frac{1}{100}$ m
1 mm	$\frac{1}{10}$ cm
1 min	$\frac{1}{60}$ hr
1 sec	$\frac{1}{60}$ min
1 day	$\frac{1}{7}$ weeks
1 day	$\frac{1}{30}$ months
1 month	$\frac{1}{12}$ years

### I Have Learnt



- Converting measures given in
  - kilometres to metres and vice versa
  - metres to centimetres and vice versa
  - Centimetres to millimetres and vice versa.
- Solving real life situations involving conversion, addition and subtraction of measures of distance.

### Vocabulary

- |           |            |
|-----------|------------|
| • Seconds | • Distance |
| • Days    | • Metre    |
| • Years   | • Months   |
| • Time    | • Weeks    |



- Converting:
  - hours to minutes and vice versa
  - minutes to seconds and vice versa
- Converting:
  - years to months and vice versa
  - months to days and vice versa
  - weeks to days and vice versa
- Adding and subtracting intervals of time in hours and minutes with carrying and borrowing.
- Solving real life situations involving conversion, addition and subtraction of intervals of time.

### Vocabulary

- Conversion
- Addition
- Subtraction
- Kilometre
- Centimetre
- Millimetre
- Hours
- Minutes

### Review Exercise



1. Tick (✓) the correct option.

a) There are \_\_\_\_\_ metres in 2 kilometres.

- i) 500      ii) 1 000      iii) 200      iv) 2 000

b) To measure \_\_\_\_\_ hours, minutes and seconds are used.

- i) Time      ii) Distance      iii) Area      iv) Length

c) There are \_\_\_\_\_ months in  $\frac{1}{2}$  year.

- i) 6      ii) 12      iii) 9      v) 5

d) There are \_\_\_\_\_ days in 10 months.

- i) 300      ii) 30      iii) 15      iv) 45

e) There are \_\_\_\_\_ minutes in 5 hours.

- i) 60      ii) 300      iii) 200      iv) 50

f) There are \_\_\_\_\_ days in 7 weeks.

- i) 49      ii) 42      iii) 7      iv) 14



2. Convert the following:

- |                   |                        |
|-------------------|------------------------|
| a) 52 km into m   | b) 21 km 103 m into m  |
| c) 1050 m into km | d) 6000 m into km      |
| e) 198 m into cm  | f) 500 m 66 cm into cm |
| g) 640 cm into m  | h) 98 cm into mm       |

3. Convert the following:

- |                             |                     |
|-----------------------------|---------------------|
| a) 22 hr 66 min into min    | b) 360 min into hr  |
| c) 580 min into hr and min  | d) 64 min into sec  |
| e) 795 sec into min and sec | f) 198 sec into min |

4. Convert the following:

- |                                    |                                  |
|------------------------------------|----------------------------------|
| a) 78 years into months            | b) 14 years 6 months into months |
| c) 26 months into years and months |                                  |
| d) 9 weeks 2 days into days        | e) 35 days into weeks            |
| f) 420 days into months            |                                  |

5. Solve the following:

- a) 6 hr 52 min + 9 hr 12 min
- b) 46 min 46 sec + 11 min 10 sec
- c) 66 years 9 months + 22 years 7 months
- d) 34 min 20 sec – 12 min 55 sec
- e) 6 weeks 5 days + 11 weeks 5 days
- f) 49 months 19 days + 55 months
- g) 33 months 15 days – 22 months 18 days
- h) 20 weeks 5 days – 15 weeks 6 days

6. The length of two ropes are 15m 13 cm and 12 m 42 cm respectively.

- a) What is the total length of two ropes?
- b) What is the difference between their lengths?

7. To stitch one shirt, a tailor takes 3 hours 45 minutes and to stitch the other shirt, he takes 2 hours and 21 minutes.

- a) For which shirt he takes more time?
- b) How much time does he take to stitch both the shirts altogether?

# Unit 7

# Geometry

## Learning Outcomes

After completing this unit, you will be able to:

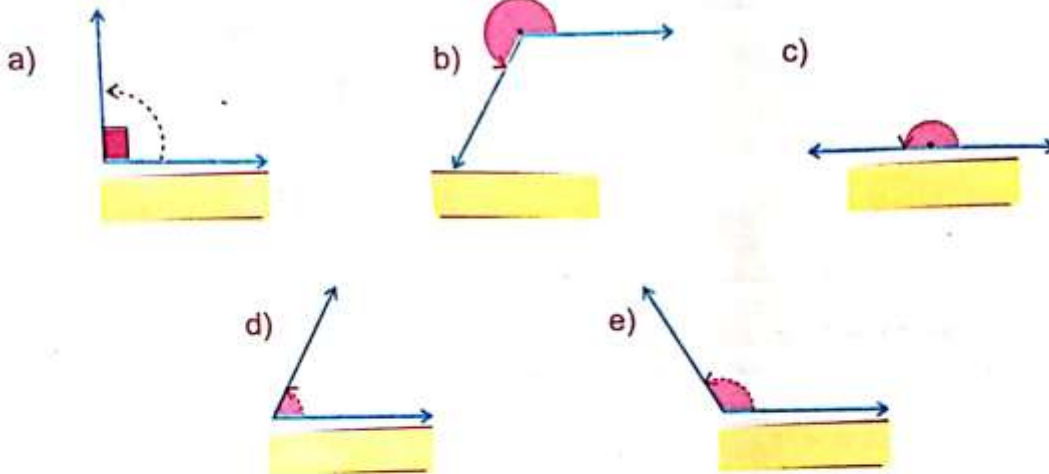
- Recognize straight and reflex angle
- Recognize the standard units for measuring angles which is  $1^\circ$  and is defined as  $\frac{1}{360}$  of a complete revolution.
- Identify, describe and estimate the size of angles.
- Classify angles as acute, right or obtuse.
- Compare angles with right angles and recognize that a straight line is equivalent to two right angles.
- Use protractor and ruler to construct
  - A right angle
  - A straight angle
  - Reflex angles of different measures
- Describe adjacent, complementary and supplementary angles.
- Identify and describe triangles with respect to their sides. (isosceles, equilateral, and scalene)
- Identify and describe triangles with respect to their angles. (Acute angled triangle, Obtuse angled triangle and right-angled triangles)
- Use protractor and ruler to construct a triangle when
  - two angles and their included side are given.
  - two sides and included angle are given.
- Measure the lengths of the remaining sides and angles of the triangle.
- Recognize the kinds of quadrilateral (square, rectangle, parallelogram, rhombus, trapezium, and kite).
- Identify and describe properties of quadrilaterals including square, rectangle, parallelogram, rhombus, trapezium, and kite, and classify those using parallel sides, equal sides and equal angles.
- Use protractor and ruler to construct square and rectangle when lengths of sides are given.
- Recognize different types of symmetry (Reflective and Rotational) in 2-D figures.
- Identify lines of symmetry for given 2-D figures.
- Find point of rotation and order of rotational symmetry of given 2-D figures.
- Identify cubes, cuboids and pyramids from their nets.

Hamad visits the hill station. He saw the reflection of mountain in the water which looks same as the mountain. Can you tell what is the relation between the mountain and its reflection?



## Exercise 1

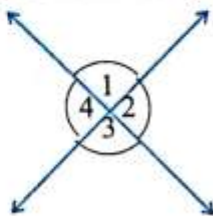
1. Draw a right angle by using card board and compare it with the given angles and indicate their types.



2. Use the protractor to draw the given angles.

a)  $35^\circ$    b)  $45^\circ$    c)  $240^\circ$    d)  $180^\circ$    e)  $90^\circ$    f)  $60^\circ$    g)  $300^\circ$    h)  $155^\circ$

3. Identify adjacent angles from the given angles:



4. Find the supplement of the following:

a)  $98^\circ$    b)  $180^\circ$    c)  $115^\circ$    d)  $3^\circ$    e)  $78^\circ$    f)  $135^\circ$    g)  $90^\circ$

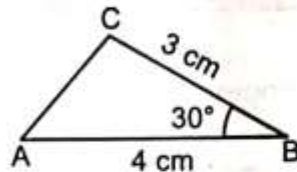
5. Find the complement of the following:

a)  $12^\circ$    b)  $88^\circ$    c)  $90^\circ$    d)  $10^\circ$    e)  $62^\circ$    f)  $40^\circ$    g)  $70^\circ$

iii) Mark a point C on the arm of  $30^\circ$  such that  $BC = 3\text{cm}$ .



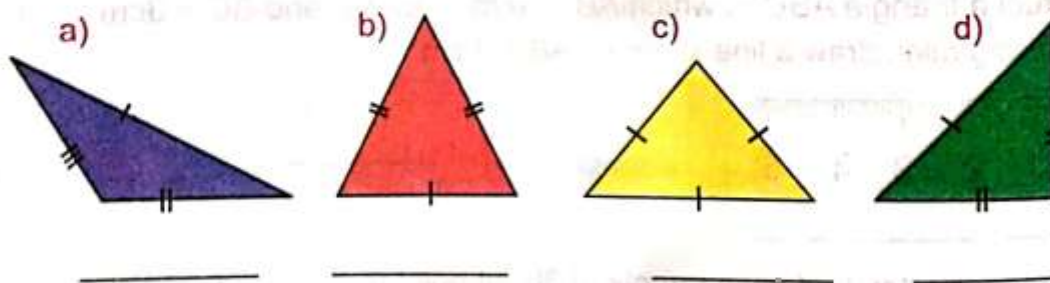
iv) Use ruler to Join A to C.



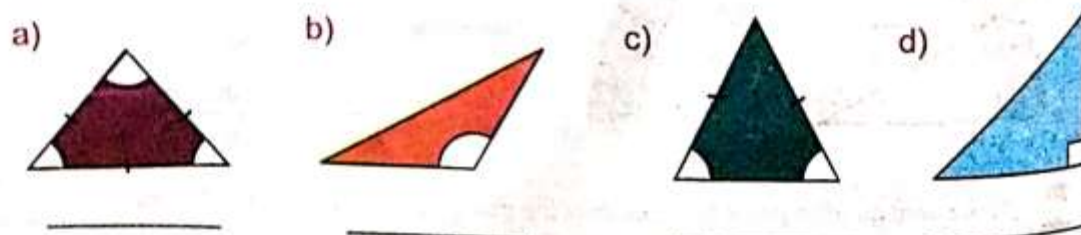
Thus,  $\triangle ABC$  is the required triangle.

## Exercise 2

1. Identify these triangles with respect to their sides.



2. Identify these triangles with respect to their angles.



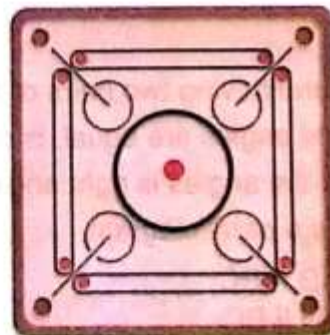


3. Draw a triangle ABC in which,  $\angle A = 75^\circ$ ,  $AB = 4\text{ cm}$  and  $\angle B = 55^\circ$ .
4. Draw a triangle LMN in which,  $\angle L = 60^\circ$ ,  $LM = 5.5\text{ cm}$  and  $\angle M = 30^\circ$ .
5. Draw a triangle JKL in which,  $KL = 4\text{ cm}$ ,  $JK = 3.2\text{ cm}$  and  $\angle K = 30^\circ$ .
6. Draw a triangle XYZ in which,  $YZ = 7.3\text{ cm}$ ,  $XY = 3.5\text{ cm}$  and  $\angle Y = 40^\circ$ .

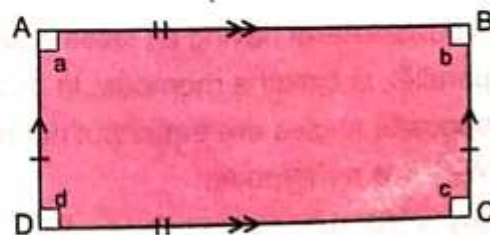
## Quadrilaterals



There are various objects around us which have 4 sides. What do we call these shapes?

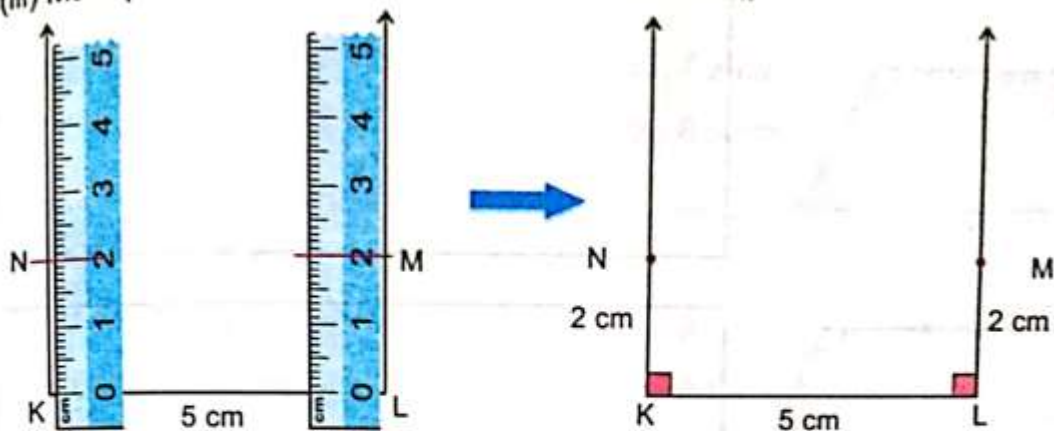


Shapes which have four sides and four angles are called quadrilaterals.



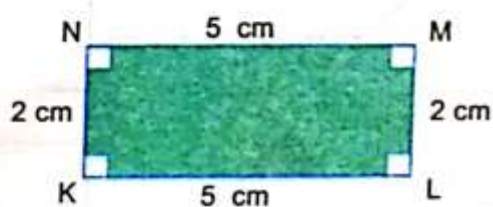
ABCD is a quadrilateral. AB, BC, CD and DA are its four sides.  $\angle a$ ,  $\angle b$ ,  $\angle c$  and  $\angle d$  are its four angles.

(iii) Mark points M and N such that  $LM = KN = 2\text{ cm}$ .



(iv) Join point M to N.

Thus, KLMN is the required rectangle.



Try It!

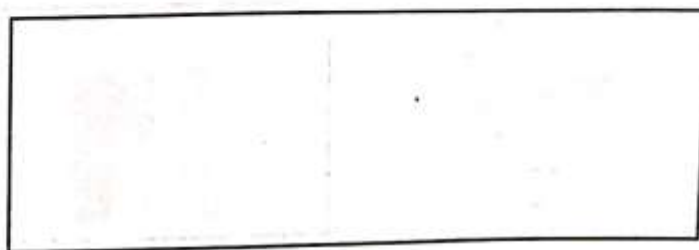
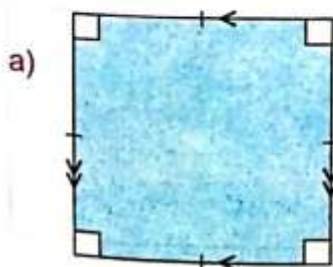


Is every square a rectangle? Is every rectangle a square? Is every rhombus a parallelogram? Is every parallelogram a rhombus? Explain your answers.

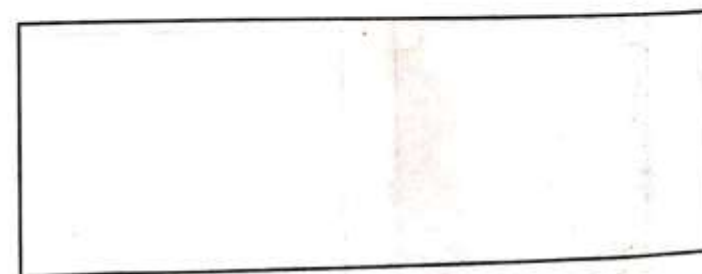
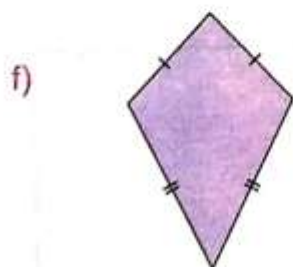
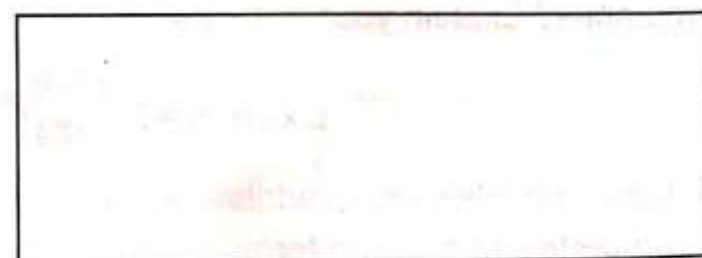
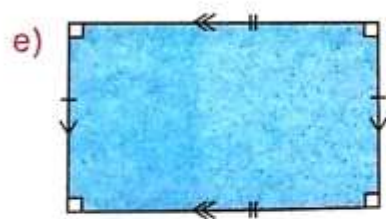
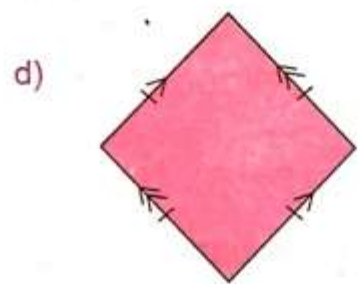
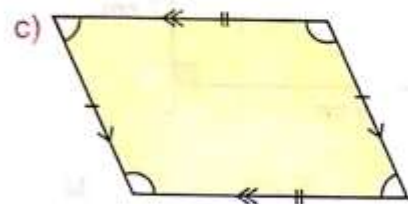
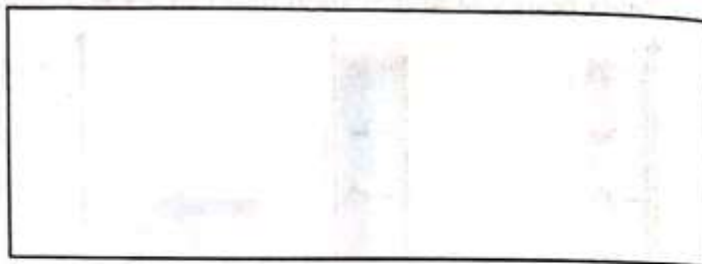
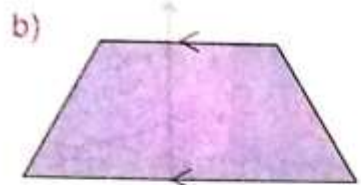
### Exercise 3



1. Label the following quadrilaterals and describe at least two properties of each (in terms of sides and angles):







2. Draw squares according to the given lengths by using protractor and ruler.

- a) 3.4 cm      b) 5 cm      c) 7.2 cm      d) 4 cm  
e) 6.3 cm      f) 5.5 cm      g) 8.9 cm      h) 3.3 cm

3. Draw rectangles by using protractor and ruler according to the given lengths and widths.

- a) 7 cm, 5 cm      b) 8 cm, 4.4 cm  
c) 6.6 cm, 3.4 cm      d) 8.5 cm, 5 cm  
e) 6 cm, 3.2 cm      f) 9 cm, 5.2 cm

## Symmetry

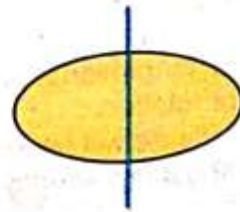


I have two different types of leaves pasted on my notebook. I have observed that the left and right sides of the leaves are exactly same.

If we fold the leaf about the mid wain one half will exactly fit the other half.



Observe these figures. They have reflective symmetry in them. The blue line is the line of symmetry which is dividing the shapes into two parts.



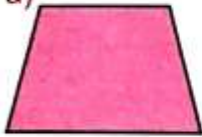


## Exercise 4



1. Encircle the figures which have reflective symmetry. Also draw their line of symmetry.

a)



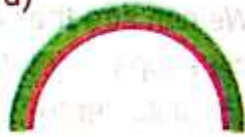
b)



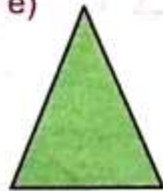
c)



d)



e)



f)



g)



h)



2. Encircle the figures having rotational symmetry. Also write the order of their rotation and mark their centre of rotation.

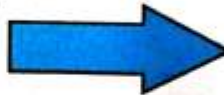
a)



b)



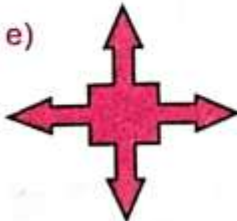
c)



d)



e)



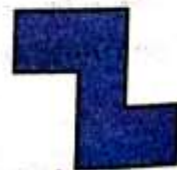
f)



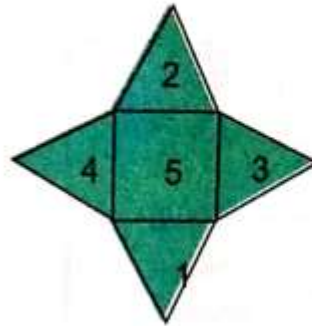
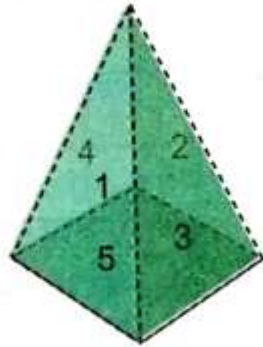
g)



h)



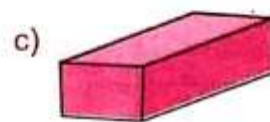
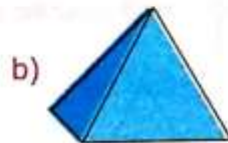
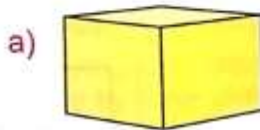
Look at the given figure. On the left side there is a square based pyramid and on the right side there is the net of the pyramid. It is made of 4 triangles and 1 square.



Net of a square pyramid

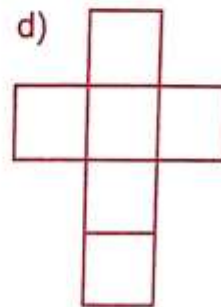
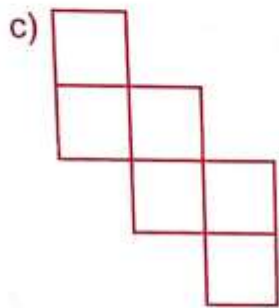
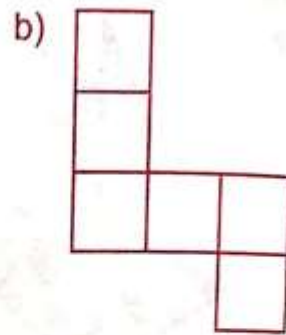
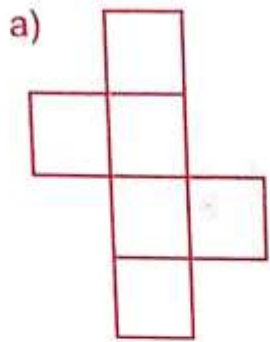
### Exercise 5

1. Write the names of these figures. Also write the number and name of faces.

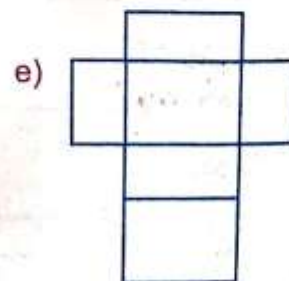
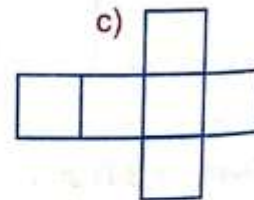
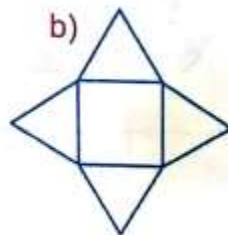
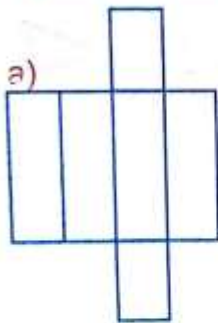


Name of 3-D shape	a)	b)	c)
Number of faces			
Names of faces			

2. Identify the nets of cube and colour them.



3. Observe these nets and identify the 3-D solid they are made of.





## I Have Learnt



- Recognizing straight and reflex angles
- Recognizing the standard unit for measuring angle is  $1^\circ$ , which is defined as  $\frac{1}{360^\circ}$  of a complete revolution.
- Identifying, describing and estimating the size of angles.
- Classifying angles as acute, right or obtuse.
- Comparing angles with right angles and recognize that a straight line is equivalent to two right angles.
- Using protractor and ruler to construct
  - A right angle
  - A straight angle
  - Reflex angles of different measures
- Describing adjacent, complementary and supplementary angles.
- Identifying and describing triangles with respect to their sides. (isosceles, equilateral, and scalene)
- Identifying and describing triangles with respect to their angles. (Acute angled triangle, Obtuse angled triangle and right angled triangle)
- Using protractor and ruler to construct a triangle when
  - two angles and their included side is given.
  - two sides and included angle is given.
- Measuring the lengths of the remaining sides and angles of the triangle.
- Recognizing the kinds of quadrilateral (square, rectangle, parallelogram, rhombus, trapezium, and kite).
- Identifying and describe properties of quadrilaterals including square, rectangle, parallelogram, rhombus, trapezium, and kite, and classify those using parallel sides, equal sides and equal angles.

### Vocabulary

- Right angle
- Acute angle
- Reflex angle
- Adjacent angles
- Complementary angles
- Supplementary angles
- Triangle
- Equilateral Triangle
- Isosceles Triangle
- Scalene Triangle
- Acute Angled Triangle
- Obtuse Angled Triangle
- Right Angled Triangle
- Quadrilaterals
- Symmetry
- Nets

- Use protractor and ruler to construct square and rectangle when lengths of sides are given.
- Recognizing different types of symmetry (Reflective and Rotational) in 2-D figures.
- Identifying lines of symmetry for given 2-D figures.
- Find point of rotation and order of rotational symmetry of given 2-D figures
- Identifying cubes, cuboids and pyramids from their nets.
- Describing and make 3-D objects (cubes, cuboids, cylinder, cone, sphere, pyramids)
- Using protractor and ruler to construct square and rectangle when lengths of sides are given.
- Recognizing different types of symmetry (Reflective and Rotational) in 2-D figures.
- Identifying lines of symmetry for given 2-D figures.
- Find point of rotation and order of rotational symmetry of given 2-D figures.
- Identifying cubes, cuboids and pyramids from their nets.

### Review Exercise

1. Tick (✓) the correct option.

a) Which of these is a reflex angle?

- i)  $375^\circ$       ii)  $215^\circ$       iii)  $180^\circ$       iv)  $90^\circ$

b) The supplement of  $20^\circ$  is:

- i)  $160^\circ$       ii)  $40^\circ$       iii)  $70^\circ$       iv)  $80^\circ$

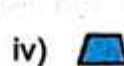
c) Sum of two right angles is equal to:

- i) Reflex angle    ii) Straight angle    iii) Acute angle    iv) Obtuse angled

d) Two angles will be called supplementary angles if their sum is equal to :

- i)  $180^\circ$       ii)  $90^\circ$       iii)  $360^\circ$       iv)  $100^\circ$

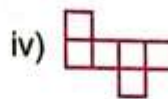
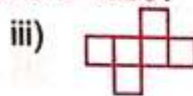
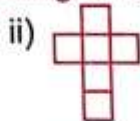
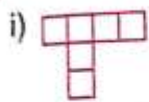
e) Which of the following shapes is not a quadrilateral?




f) A triangle in which its sides are equal, is called an isosceles triangle.

- i) 1                      ii) 2                      iii) 3                      iv) 4

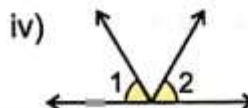
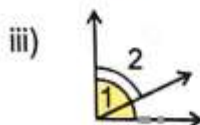
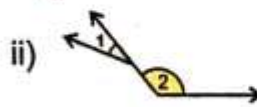
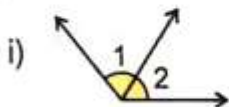
g) Which of the following is not the net of a cube?



h) The order of the rotational symmetry of the shape  is:

- i) 1                      ii) 2                      iii) 3                      iv) 4

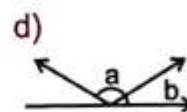
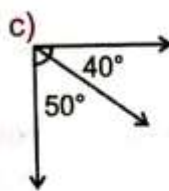
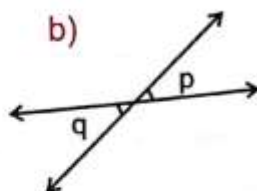
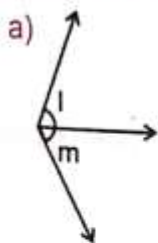
i) Which of the following is showing adjacent angles?



2. Draw these angles by using protractor and ruler.

- a)  $35^\circ$                       b)  $45^\circ$                       c)  $240^\circ$                       d)  $180^\circ$   
e)  $90^\circ$                       f)  $60^\circ$                       g)  $300^\circ$                       h)  $155^\circ$

3. Identify the adjacent angles.



4. Make 5 pairs of each complementary and supplementary angles.

a) \_\_\_\_\_ + \_\_\_\_\_ = \_\_\_\_\_

f) \_\_\_\_\_ + \_\_\_\_\_ = \_\_\_\_\_

b) \_\_\_\_\_ + \_\_\_\_\_ = \_\_\_\_\_

g) \_\_\_\_\_ + \_\_\_\_\_ = \_\_\_\_\_

c) \_\_\_\_\_ + \_\_\_\_\_ = \_\_\_\_\_

h) \_\_\_\_\_ + \_\_\_\_\_ = \_\_\_\_\_

d) \_\_\_\_\_ + \_\_\_\_\_ = \_\_\_\_\_

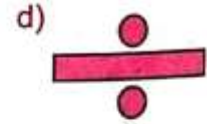
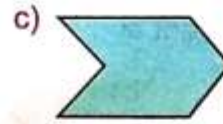
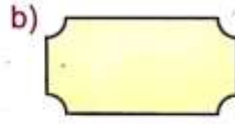
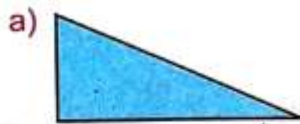
i) \_\_\_\_\_ + \_\_\_\_\_ = \_\_\_\_\_

e) \_\_\_\_\_ + \_\_\_\_\_ = \_\_\_\_\_

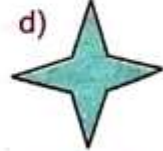
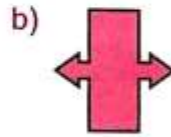
j) \_\_\_\_\_ + \_\_\_\_\_ = \_\_\_\_\_



5. How many types of triangles are there with respect to their sides and angles?
6. Draw a triangle IJK in which,  $\angle I = 70^\circ$ ,  $IJ = 6.8$  cm and  $\angle J = 28^\circ$ .
7. Draw a triangle PQR in which,  $QR = 3.3$ cm,  $PQ = 5.2$  cm and  $\angle PQR = 75^\circ$ .
8. Draw squares according to the given lengths with the help of protractor and ruler.
  - a) 4 cm                      b) 5.1 cm                      c) 3.6 cm                      d) 4.9 cm
9. Draw rectangles with the help of protractor and ruler according to the given lengths and widths.
  - a)  $\ell = 4$  cm,  $w = 3.4$  cm                      b)  $\ell = 5$  cm,  $w = 3$  cm
  - c)  $\ell = 6.6$  cm,  $w = 4.2$  cm                      d)  $\ell = 7$  cm,  $w = 2.4$  cm
10. Encircle the figures which have reflective symmetry. Also draw their line of symmetry.



11. Encircle the figures having rotational symmetry. Also write the order of their rotation and mark their centre of rotation.



12. Use card board to make nets of various solids. Also write the number of their faces and the name of shape. Then fold them and verify whether you have created the correct net or not.

## Unit 8

# Perimeter and Area

### Learning Outcomes

After completing this unit, you will be able to:

- Differentiate between perimeter and area of a square and rectangular region.
- Identify the units for measurement of perimeter and area.
- Find and apply formulas to find perimeter and area of a square and rectangular region.
- Solve real life situations involving perimeter and area of square and rectangular regions.



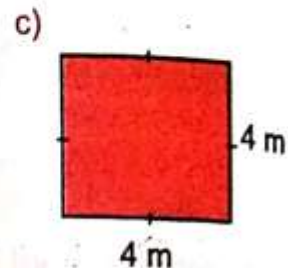
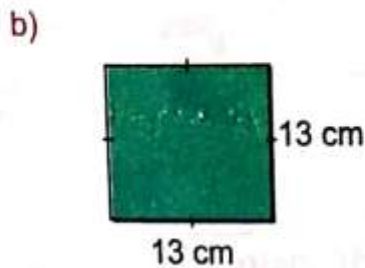
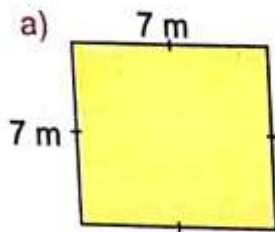
Wooden fence is to be fixed around a rectangular park. If you know the length and width of the park how can you find the required length of the fence?



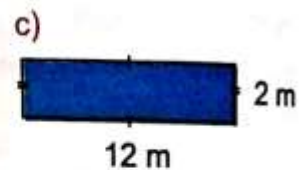
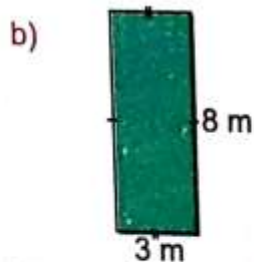
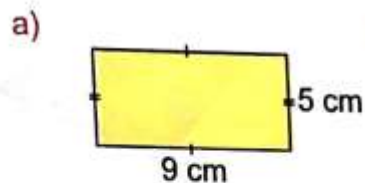
## Exercise 1



1. Find the perimeter of the given squares.

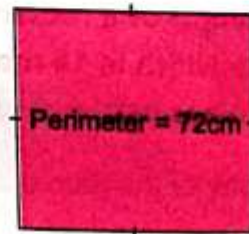


2. Find the perimeter of the given rectangles.



3. If the length of a square shaped crop field is 29m, what will be its perimeter?

4. The perimeter of a square shape is 72 cm. What will be its length?



5. Find the perimeter of the squares of the given lengths by using formula.

- |          |          |            |          |           |           |
|----------|----------|------------|----------|-----------|-----------|
| a) 5 cm  | b) 12 cm | c) 6 m     | d) 19 cm | e) 26 m   | f) 2.5 cm |
| g) 9.7 m | h) 15 m  | i) 16.6 cm | j) 10 m  | k) 7.1 cm | l) 2.7 cm |

6. Find the perimeter of the rectangles of the given lengths and widths by using formula.

- |                              |                                |                                |
|------------------------------|--------------------------------|--------------------------------|
| a) $\ell = 3$ cm, $w = 2$ cm | b) $\ell = 5.3$ m, $w = 2.2$ m | c) $\ell = 6$ cm, $w = 4$ cm   |
| d) $\ell = 9$ m, $w = 1.2$ m | e) $\ell = 10$ m, $w = 5.9$ m  | f) $\ell = 15$ cm, $w = 12$ cm |



7. Children are playing in a square shaped playground. If the length of the playground is 12 metres, find its perimeter.
8. Harris wants to find out the perimeter of the square shaped notice board in his classroom. If the length of one side of the notice board is 2.5 metres, find the perimeter of the notice board.
9. If a rectangular room is 10.8 metres long and 8.8 metres wide. Find the perimeter of the room.
10. Nadia has a rectangular frame. The frame is 12 cm long and 8 cm wide. Nadia wants to put a ribbon around the frame.
- Find the required length of the ribbon.
  - What will be the total cost of ribbon if 1 metre of it costs Rs 5.
11. A building is 128 metres long and 96.5 metres wide.
- Find out its perimeter
  - Find the total cost for the construction of boundary wall around this building if the rate of construction of wall is Rs. 470 per metre.



#### Hint

By multiplying the cost of the ribbon per metre with the perimeter of the frame will determine the total cost of the ribbon.

### Area of a Square



My room is square shaped. Its length is 11 metres. How can I find its area?



We can find the area of a square shaped room by multiplying its length with width.



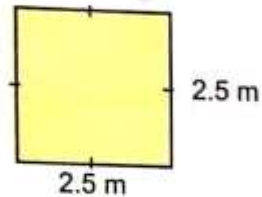
Ask the students to look around for square shaped objects and then find their area.

## Exercise 2

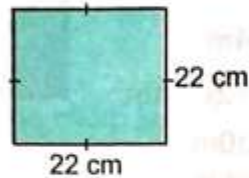


1. Find the area of the given squares.

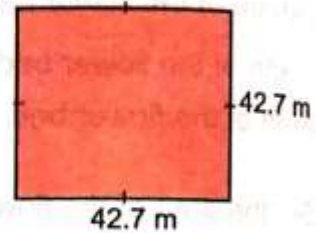
a)



b)

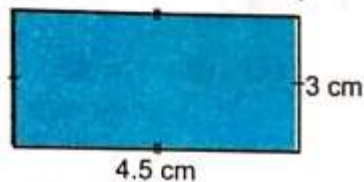


c)

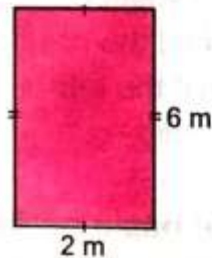


2. Find the area of the given rectangles.

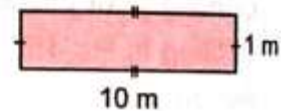
a)



b)



c)



3. The area of a rectangle is  $96\text{m}^2$ . If its width is 3m, then find its length.

4. Find the area of the squares of the given lengths by using formula.

a) 4.5 m

b) 9.3 cm

c) 8.8 m

d) 15 cm

e) 13 cm

f) 3 m

g) 6 m

h) 2.9 m

i) 5 cm

j) 9.2 m

k) 14 m

l) 1.1 cm

5. Find the area of the rectangles of the given lengths and widths by using formula.

a)  $\ell = 5\text{ cm}$ ,  $w = 1.9\text{ cm}$

b)  $\ell = 4\text{ m}$ ,  $w = 3\text{ m}$

c)  $\ell = 6\text{ cm}$ ,  $w = 4\text{ cm}$

d)  $\ell = 7\text{ cm}$ ,  $w = 5\text{ cm}$

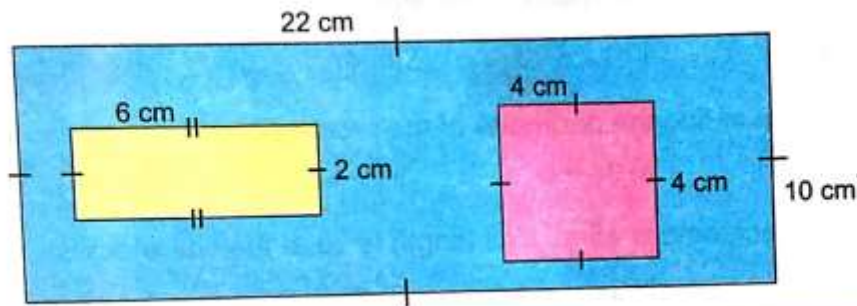
e)  $\ell = 10.5\text{ cm}$ ,  $w = 9\text{ cm}$

f)  $\ell = 20\text{ m}$ ,  $w = 17\text{ m}$

6. A rectangular shaped ground has a length of 122m and width 108m. Find the area of the ground.



7. The area of a school's main gate is  $19.55\text{m}^2$ .
- If the width of the gate is  $2.3\text{m}$ , then find its length.
  - Find the cost of painting the gate if the rate of painting is Rs 275 per  $\text{m}^2$ .
8. Area of a masjid is  $27540\text{m}^2$  and its length is  $255\text{m}$ . Find:
- The perimeter of the masjid.
  - The cost of carpeting the masjid, if the rate of carpeting is Rs 275 per  $\text{m}^2$ .
9. Find the area of the blue part.



### I Have Learnt



- Differentiation between perimeter and area of a square and rectangular region.
- Identifying the units for measurement of perimeter and area.
- Finding and applying formulas to find perimeter and area of a square and rectangular region.
- Solving real life situations involving perimeter and area of square and rectangular regions.

### Vocabulary

- Perimeter
- Area
- Square
- Rectangle
- Unit
- Formula
- Region
- Measurement



## Review Exercise



1. Tick (✓) the correct option.

a) If the length of a rectangle is 4 cm and width is 3.4 cm, then its perimeter will be equal to\_\_\_\_\_.

- i) 11.4 cm      ii) 7.4 cm      iii) 14.8 cm      iv) 10.8 cm

b) Formula to find the perimeter of the square is:

- i)  $4 + \ell$       ii)  $4 - \ell$       iii)  $4\ell$       iv)  $\ell \times \ell$

c) The formula to find the perimeter of the rectangle is:

- i)  $2(\ell + w)$       ii)  $2\ell + w$       iii)  $\ell + 2w$       iv)  $\ell + w$

d) Area of a rectangle is  $45\text{m}^2$ . If its length is 15 m then its width is:

- i) 6m      ii) 3m      iii) 5m      iv) 15m

e) The formula to find the area of the square is:

- i)  $\ell \times \ell$       ii)  $2(\ell + w)$       iii)  $\ell + 2w$       iv)  $4\ell$

f) The formula to find the area of the rectangle is:

- i)  $\ell \times w$       ii)  $2(\ell + w)$       iii)  $\ell + 2w$       iv)  $4\ell$

g) If the perimeter of the rectangle is 34 cm and we increase its length by 2 cm then there will be difference of \_\_\_\_\_ cm in its perimeter.

- i) 2      ii) 4      iii) 8      iv) 6

h) If the length of one side of the square is 14 cm, then its perimeter will be \_\_\_\_\_.

- i) 14 cm      ii) 56 cm      iii) 256 cm      iv) 28 cm

2. Find the perimeter and area of the squares of the given lengths by using formula.

a) 8.2 cm

b) 2.6 m

c) 12.8 m

d) 7.9 cm

e) 16 cm

f) 4.3 m

g) 5.7 m

h) 11 cm

3. Find the perimeter and area of the rectangles of the given lengths and widths by using formula.

a)  $\ell = 6$  cm,  $w = 3.4$  cm

b)  $\ell = 1.2$  m,  $w = 0.3$  m

c)  $\ell = 10$  cm,  $w = 13$  cm

d)  $\ell = 17$  cm,  $w = 8.5$  cm

4. The perimeter of a book is 100 cm. If its width is 22 cm, find its length.

5. Laiba wants tiling for the floor of her kitchen. If the length of the kitchen is 3 metres and width is 2.5 metres then find the area of the kitchen.

6. The length of the fence around a square shaped garden is 24m. Find the length of the garden.

7. Daniya took a 42 cm long ribbon and made a rectangle with it. If the length of the rectangle is 15 cm, then find its width.

8. Find the area of the carrom board whose perimeter is 40 cm.