



5th
Basic

6th
Advanced

Helping With Math

USA
GRADES

Area of Other Quadrilaterals

Suitable for students
aged 9-11

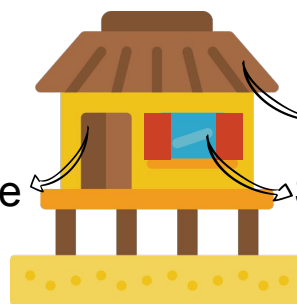


This pack is suitable for learners aged 9-11 years old or 5th and 6th graders (USA). The content covers fact files and relevant basic and advanced activities involving area of other quadrilaterals.

Hi! Let me tour you around my province after we learn how to solve the area of other quadrilaterals.



Rectangle



Trapezoid



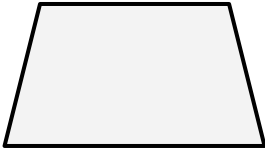
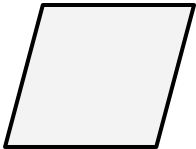
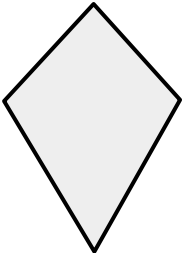

Square

What is a **Quadrilateral**?

- A quadrilateral is a two-dimensional figure that has exactly four sides, four vertices and four angles.

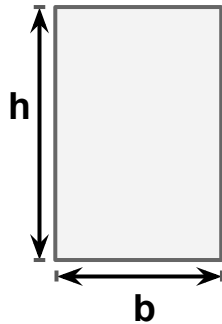


TYPES OF QUADRILATERALS

NAME/DRAWING	DESCRIPTION
RECTANGLE 	<ul style="list-style-type: none">• Opposite sides are parallel and equal.• All angles are 90°.• The diagonals bisect each other.
SQUARE 	<ul style="list-style-type: none">• Opposite sides are parallel and all sides are equal.• All angles are 90°.• Diagonals bisect each other at right angles.
TRAPEZOID 	<ul style="list-style-type: none">• It has one pair of opposite sides parallel.• It has non-parallel sides equal and its base angles are equal, as shown in the diagram.
RHOMBUS 	<ul style="list-style-type: none">• All sides are equal and opposite sides are parallel.• Opposite angles are equal.• The diagonals bisect each other at right angles.
KITE 	<ul style="list-style-type: none">• Two pairs of adjacent sides are equal.• One pair of opposite angles is equal.• Diagonals intersect at right angles.• The longest diagonal bisects the shortest diagonal into two equal parts.
PARALLELOGRAM 	<ul style="list-style-type: none">• Opposite sides are parallel and equal.• Opposite angles are equal.• Diagonals bisect each other



AREA OF OTHER QUADRILATERALS

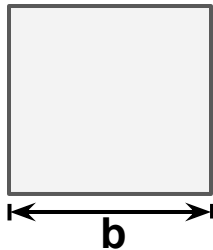


Rectangle

Formula: $A = b \times h$

Where

- l = length
- w = width

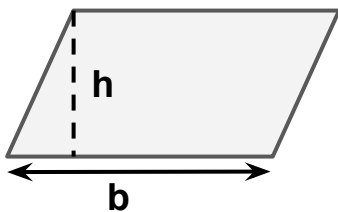


Square

Formula: $A = b^2$

Where

- x = side length of the square



Parallelogram

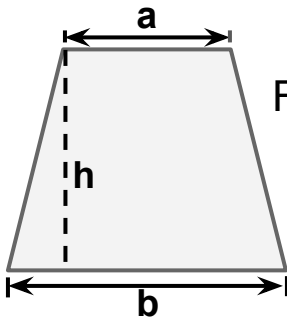
Formula: $A = b \times h$

Where

- b = base
- h = height



AREA OF OTHER QUADRILATERALS

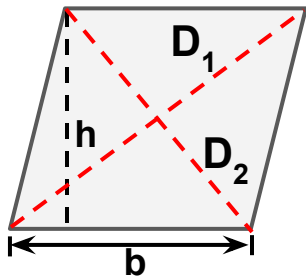
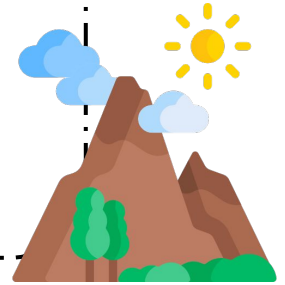


Trapezoid

Formula: $A = \frac{1}{2} (a+b)h$

Where

- a = upper base
- b = lower base
- h = height



Formula using base and height: $A = \frac{1}{2} (a+b)h$

Where

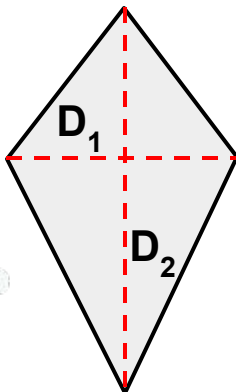
- b = base
- h = height

Formula using diagonals:

$$A = \frac{1}{2} (D_1 \times D_2)$$

Where

- D_1 and D_2 are diagonals

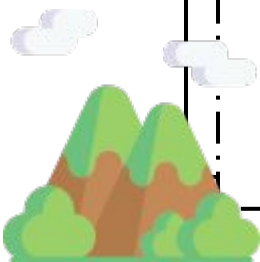


Kite

Formula: $A = \frac{1}{2} (D_1 \times D_2)$

Where

- D_1 and D_2 are diagonals

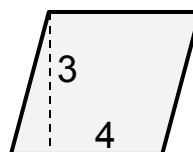


LET'S PRACTICE!

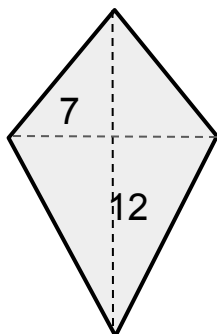
1



2



3



4

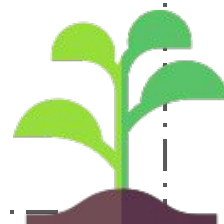
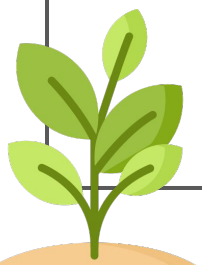
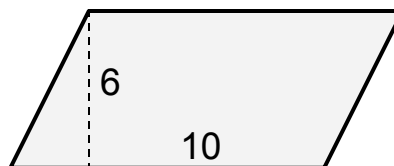


TABLE OF ACTIVITIES

Ages 9-10 (Basic)		<u>5th Grade</u>
1	Figures at the Farm	
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4	Under the Mango Tree	
5	Animal Houses	
Ages 10-11 (Advanced)		<u>6th Grade</u>
6	Farmlands	
7	Vacation at the Province	
8	House at the Province	
9	Hardworking Farmer	
10	Rice Cakes for You	



FIGURES AT THE FARM

G5
Basic

Gina is seeing a lot of figures at the farm in her province. Help her identify the figures being described below. Write your answers on the space provided.

1

- Opposite sides are parallel and equal.
- All angles are 90° .
- The diagonals bisect each other.

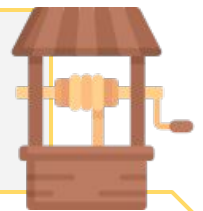


2

- All sides are equal and opposite sides are parallel.
- Opposite angles are equal.
- The diagonals bisect each other at right angles.

3

- Opposite sides are parallel and equal.
- Opposite angles are equal.
- Diagonals bisect each other.



4

- Opposite sides are parallel and all sides are equal.
- All angles are 90° .
- Diagonals bisect each other at right angles.

5

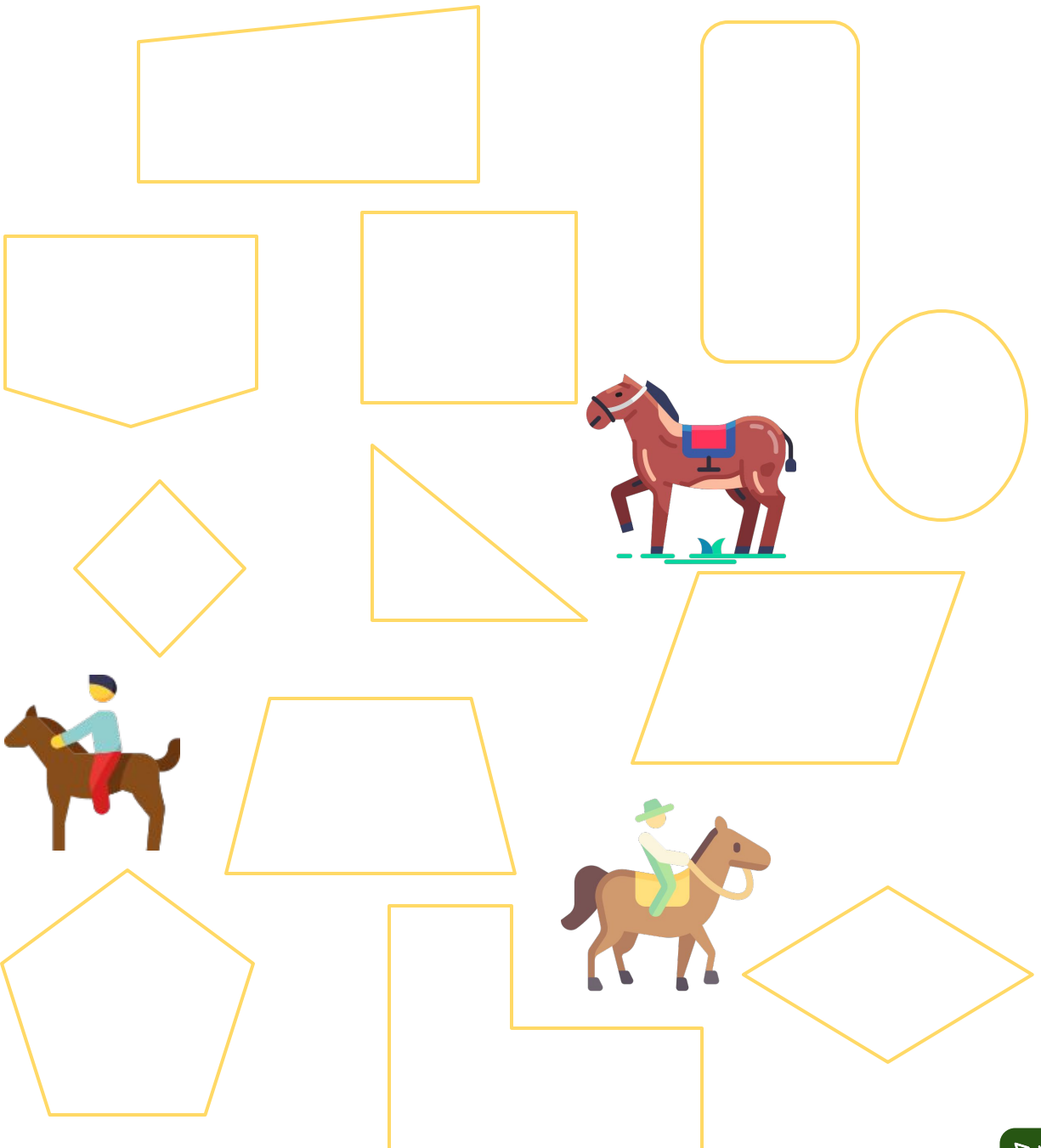
- It has one pair of opposite sides parallel.
- It has non-parallel sides equal and its base angles are equal, as shown in the following diagram.



HORSEBACK RIDING

G5
Basic

Carl will be allowed to join horseback riding if he managed to identify the quadrilaterals below. Help him by coloring all the quadrilaterals. Write the name inside the figure.



PICK SOME FLOWERS

G5
Basic

Janna will give her mom some flowers for her birthday. Help Janna pick some flowers at the garden by choosing the correct name of the figure from the choices and write it inside the box.



a.) rhombus



d.) rectangle

b.) trapezoid

e.) kite

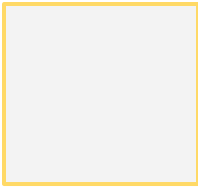


c.) parallelogram

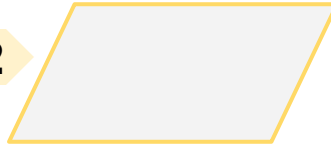


f.) square

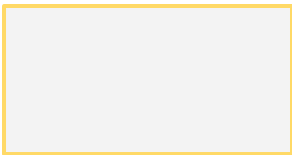
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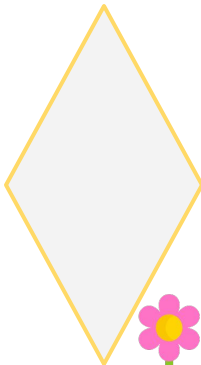
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5



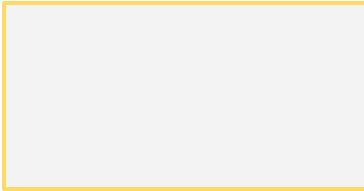
6



UNDER THE MANGO TREE

G5
Basic

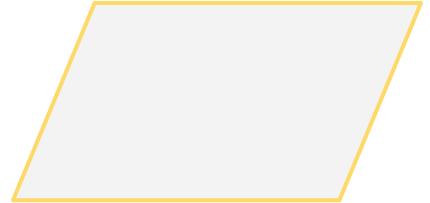
Dina and her cousins are playing word hunt under a huge mango tree. Help her win by answering the following. Identify the name of the figures below. Search and encircle the names, write your answers on the space provided.



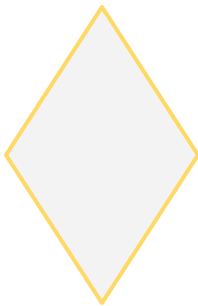
1.) _____



2.) _____



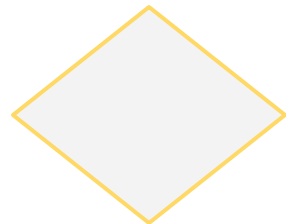
3.) _____



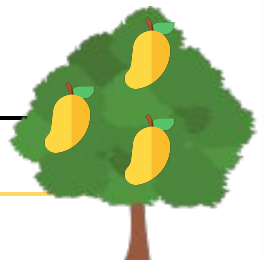
4.) _____



5.) _____



6.) _____



QUADRILATERALS

A G B G W O V T R A P E Z O I D G W A O B G V A
S T K E T M W J S E T K T T W K E T S M K E W S
D R J W G A E D D W G I D G E J W G D A J W E D
G H F G K S S V G G K F G K S F G K G S F G S G
V B D H N X Q N V H N D V N X D H N V X D H X V
R H O M B U S U R E C T A N G L E M R C C N F R
S K B M V F F Y A M V B S V F B M V S F B M F S
G B J J G D G J G R G J G G G J J G G D J J G G
H V Y U H G C H M A E G O L E L L A R A P U C H
J D R U Y G G R J R Y R J Y G R U Y J G R Y G J



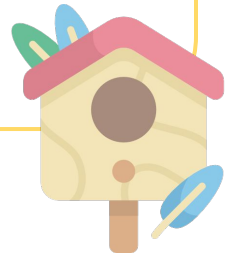
ANIMAL HOUSES

G5
Basic

Lino is planning to create animal houses in his farm. Help him create the houses by answering the following problems. Show your solution on the space provided.

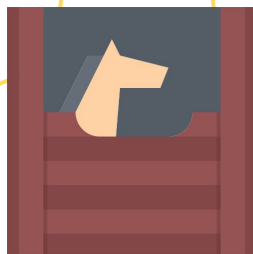
1.) The bases of a trapezoid are 6 cm and 9 cm. The height is 7 cm. What is the area?

2.) The length of a rectangular lot is 50m and the width is 36m. What is the area of the lot?



3.) A kite has a short diagonal of 10 cm and long diagonal of 18 cm. What is the area of the kite?

4.) A square-shaped picture frame has a side length of 5in. What is the area of the frame?

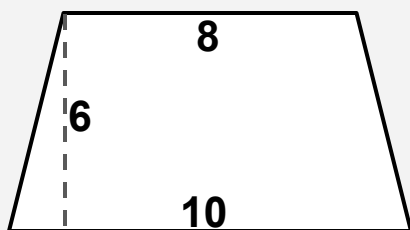


FARMLANDS

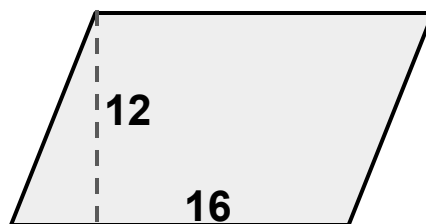
G6
Advanced

Joseph owns 4 farmlands in the form of trapezoid, parallelogram, kite and rhombus. He wants you to help him solve for the area of his farmlands. Do that by answering the following. Show your solutions on the space provided.

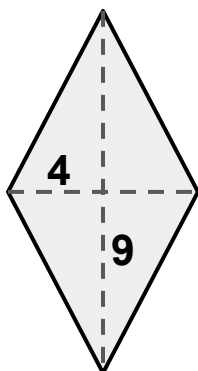
1



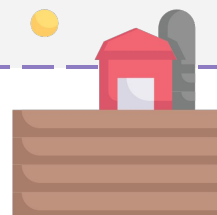
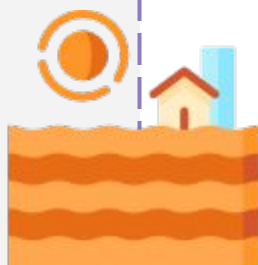
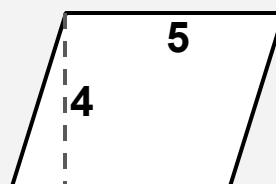
2



3



4



VACATION AT THE PROVINCE

G6
Advanced

Marie will have her vacation at the province if she managed to answer the following. Based on the given dimensions, find the area of the following figures. Show your solution on the space provided.

1

Rectangle
 $b = 4 \text{ cm}$
 $h = 9 \text{ cm}$



2

Parallelogram
 $b = 13 \text{ cm}$
 $h = 9 \text{ cm}$



3

Trapezoid
 $b_1 = 12 \text{ cm}$
 $b_2 = 16 \text{ cm}$
 $h = 7 \text{ cm}$



4

Rhombus
 $D_1 = 6 \text{ cm}$
 $D_2 = 8 \text{ cm}$

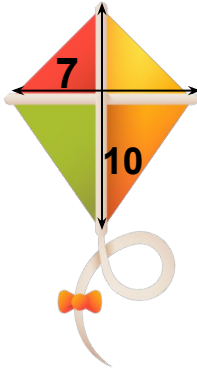


HOUSE AT THE PROVINCE

G6
Advanced

Yen built a vacation house in the province. Help her choose the things she need to buy for the new house by choosing the letter of the correct answer. Write the letters inside the box. Find the area of the following and show your solution on the space provided.

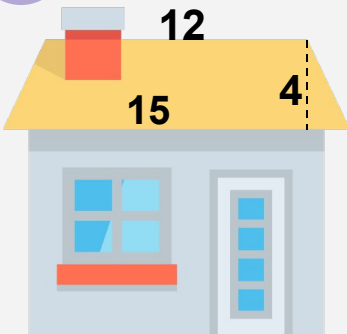
1



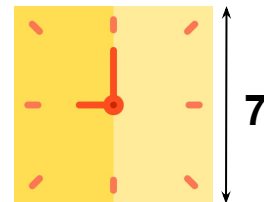
2



3



4



a.) 54 unit^2



b.) 49 unit^2



c.) 27 unit^2



d.) 70 unit^2

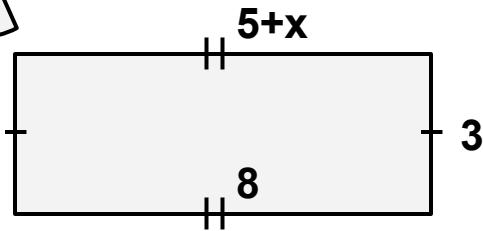


HARDWORKING FARMER

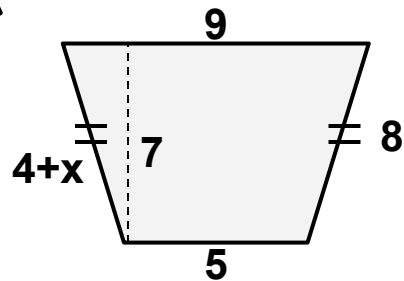
G6
Advanced

Mario is a farmer in a rice field in the province. He wants to measure the land areas first before planting the rice. Help him find the value of x and the area of the following figures. Show your solution on the space provided.

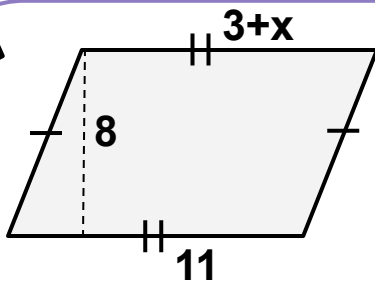
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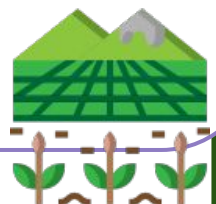
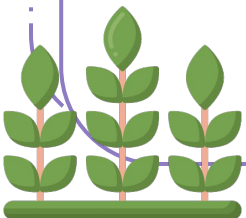
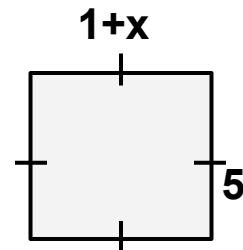
2



3



4



RICE CAKES FOR YOU

G6
Advanced

Rice cakes in the province come in different shapes. You will be given some rice cakes if you managed to illustrate and find the area of the given the dimensions below. Show your solution on the space provided.

Illustration

Solution

1.)

Rhombus
 $D1 = 11 \text{ cm}$
 $D2 = 8 \text{ cm}$



2.)

Rectangle
 $b = 14 \text{ cm}$
 $h = 6 \text{ cm}$



3.)

Kite
 $D1 = 12 \text{ cm}$
 $D2 = 16 \text{ cm}$



4.)

Parallelogram
 $b = 15$
 $h = 10$

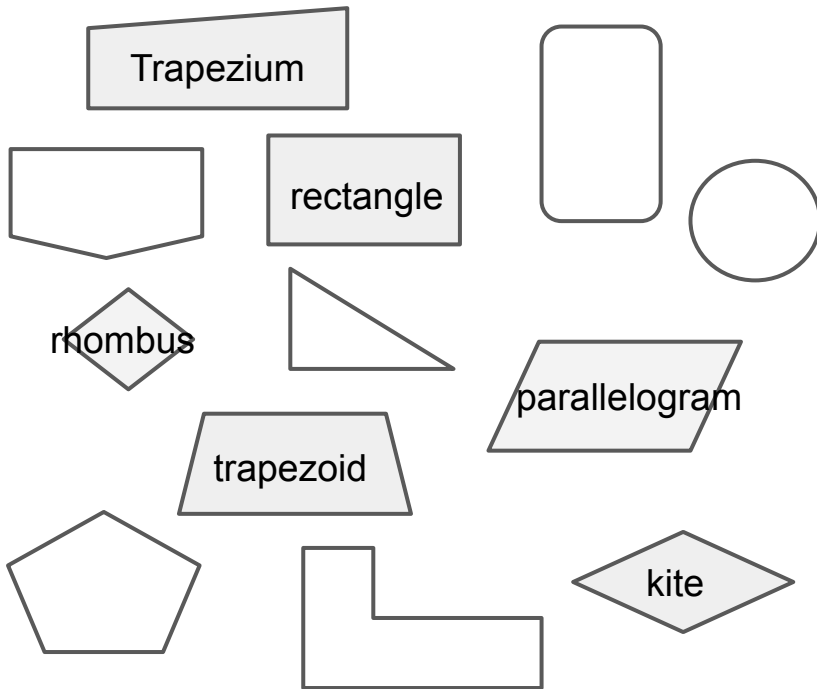


ANSWER GUIDE

Activity 1

- | | | |
|-------------------|-------------|---------------|
| 1.) Rectangle | 2.) Rhombus | 5.) Trapezoid |
| 3.) Parallelogram | 4.) Square | |

Activity 2



Activity 3

- | | | |
|----------------------|------------------|----------------|
| 1.) f- square | 3.) d- rectangle | 5.) e- kite |
| 2.) c- parallelogram | 4.) b- trapezoid | 6.) a- rhombus |

Activity 4

- | | | |
|-------------------|---------------|-------------|
| 1.) square | 3.) rectangle | 5.) kite |
| 2.) parallelogram | 4.) trapezoid | 6.) rhombus |



ANSWER GUIDE

QUADRILATERALS

A G B G W O V **T R A P E Z O I D** G W A O B G V A
S T K E T M W J S E T K T T W K E T S M K E W S
D R J W G A E D D W G I D G E J W G D A J W E D
G H F G K **S S** V G G **K I T E** S F G K G S F G S G
V B D H N X **Q N** V H N D V N X D H N V X D H X V
R H O M B U S **U R E C T A N G L E** M R C C N F R
S K B M V F F Y **A** M V B S V F B M V S F B M F S
G B J J G D G J **G R** G J G G G J J G G D J J G G
H V Y U H G C H K A **E** J L D E L G A R A P U C H
J D R U Y G G R **M A R G O L E L L A R A P** Y G J

Activity 5

$$\begin{aligned} 1.) A &= \frac{1}{2} (a+b) h \\ A &= \frac{1}{2} (6+9)(7) \\ &= 52.5 \text{ cm}^2 \end{aligned}$$

$$\begin{aligned} 3.) A &= D_1 \times D_2 \\ A &= 18 \times 10 \\ &= 180 \text{ cm}^2 \end{aligned}$$

$$\begin{aligned} 2.) A &= b \times h \\ &= 50 \times 36 \\ &= 1800 \text{ cm}^2 \end{aligned}$$

$$\begin{aligned} 4.) A &= b^2 \\ A &= 5^2 \\ &= 25 \text{ cm}^2 \end{aligned}$$

Activity 6

$$\begin{aligned} 1.) A &= \frac{1}{2} (a+b) h \\ A &= \frac{1}{2} (10+8)(6) \\ &= 240 \text{ unit}^2 \end{aligned}$$

$$\begin{aligned} 3.) A &= D_1 \times D_2 \\ A &= 4 \times 9 \\ &= 36 \text{ unit}^2 \end{aligned}$$

$$\begin{aligned} 2.) A &= b \times h \\ &= 12 \times 16 \\ &= 192 \text{ unit}^2 \end{aligned}$$

$$\begin{aligned} 4.) A &= b \times h \\ &= 4 \times 5 \\ &= 20 \text{ unit}^2 \end{aligned}$$



ANSWER GUIDE

Activity 7

$$\begin{aligned}1.) A &= b \times h \\ A &= 4 \times 9 \\ &= 36 \text{ cm}^2\end{aligned}$$

$$\begin{aligned}2.) A &= b \times h \\ &= 13 \times 9 \\ &= 117 \text{ cm}^2\end{aligned}$$

$$\begin{aligned}3.) A &= \frac{1}{2} (a+b) h \\ A &= \frac{1}{2} (12+16)(7) \\ &= 98 \text{ cm}^2\end{aligned}$$

$$\begin{aligned}4.) A &= D_1 \times D_2 \\ &= 6 \times 8 \\ &= 48 \text{ cm}^2\end{aligned}$$

Activity 8

$$\begin{aligned}1.) A &= D_1 \times D_2 \\ A &= 7 \times 10 \\ &= 70 \text{ unit}^2 \quad \mathbf{d}\end{aligned}$$

$$\begin{aligned}2.) A &= b \times h \\ &= 3 \times 9 \\ &= 27 \text{ unit}^2 \quad \mathbf{c}\end{aligned}$$

$$\begin{aligned}3.) A &= \frac{1}{2} (a+b) h \\ A &= \frac{1}{2} (12+15)(4) \\ &= 54 \text{ unit}^2 \quad \mathbf{a}\end{aligned}$$

$$\begin{aligned}4.) A &= b^2 \\ &= 7^2 \\ &= 49 \text{ unit}^2 \quad \mathbf{b}\end{aligned}$$

Activity 9

$$\begin{aligned}1.) 5 + x &= 8 \\ \mathbf{x} &= \mathbf{3} \\ A &= l \times w \\ A &= 8 \times 3 \\ &= \mathbf{27 \text{ unit}^2}\end{aligned}$$

$$\begin{aligned}3.) 3 + x &= 11 \\ \mathbf{x} &= \mathbf{8} \\ A &= b \times h \\ &= 11 \times 8 \\ &= \mathbf{88 \text{ unit}^2}\end{aligned}$$

$$\begin{aligned}2.) 4 + x &= 8 \\ \mathbf{x} &= \mathbf{4} \\ A &= \frac{1}{2} (a+b) h \\ A &= \frac{1}{2} (9+5)(7) \\ &= \mathbf{49 \text{ unit}^2}\end{aligned}$$

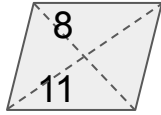
$$\begin{aligned}4.) 1 + x &= 5 \\ \mathbf{x} &= \mathbf{5} \\ A &= b^2 \\ &= 5^2 \\ &= \mathbf{25 \text{ unit}^2}\end{aligned}$$



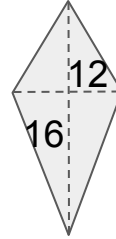
ANSWER GUIDE

Activity 10

$$\begin{aligned} 1.) A &= D_1 \times D_2 \\ A &= 11 \times 8 \\ &= 88 \text{ cm}^2 \end{aligned}$$



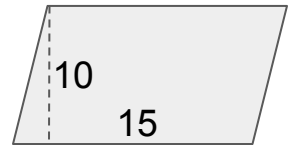
$$\begin{aligned} 3.) A &= D_1 \times D_2 \\ &= 12 \times 16 \\ &= 192 \text{ cm}^2 \end{aligned}$$



$$\begin{aligned} 2.) A &= b \times h \\ &= 14 \times 6 \\ &= 84 \text{ cm}^2 \end{aligned}$$



$$\begin{aligned} 4.) A &= b \times h \\ A &= 15 \times 10 \\ &= 150 \text{ cm}^2 \end{aligned}$$



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