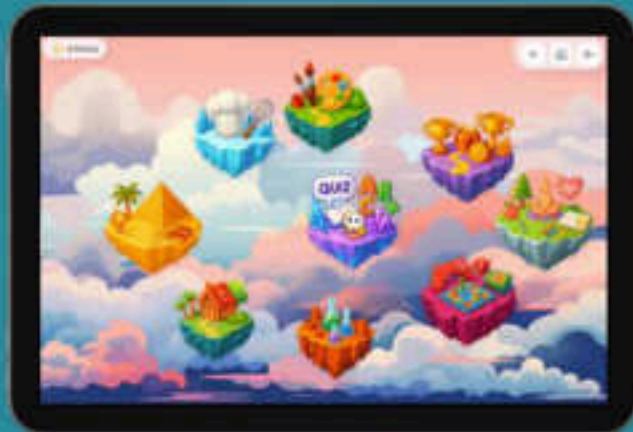




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Perimeter - Year 4

Table of Contents	
Presentation: Perimeter - Year 4	
Classroom Display: Perimeter Quick Guide	
Student Reference: Measuring Perimeter	
Game: Perimeter Park Enclosures	
Game: Perimeter Park Challenge Cards	
Worksheet: Crack the Perimeter Code	
Worksheet: Perimeter Puzzle Paths	
Worksheet: Robot Perimeters	
Activity: My Robot Design Grid	
Worksheet: Farmer Fred's Fence Plan	
Worksheet: Farmer Fred's Recording Sheet	
Worksheet: Sam's School Grounds Challenge	
Worksheet: Sam's School Recording Sheet	
Worksheet: Perimeter Word Problems	
Quiz: Perimeter - Year 4	
Assessment: Perimeter Check-Up	
Rubric: Perimeter - Year 4 Rubric	





PERIMETER QUICK GUIDE



Perimeter is the total distance around the outside of a shape.



Add every side length. Keep the unit in your answer.



Rectangle shortcut: $2 \times \text{length} + 2 \times \text{width}$



Regular shape shortcut: one side $\times$ number of sides



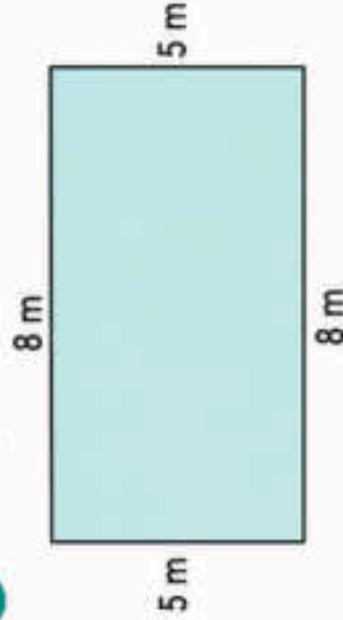
Use centimetres for small objects. Use metres for rooms, courts and gardens.
Use kilometres for very large distances.



Not to scale means the drawing is not the real size.
Use the written measurements.

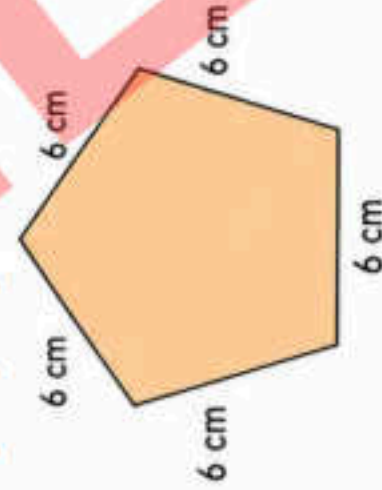
1

Rectangle: $8\text{ m} + 8\text{ m} + 5\text{ m} + 5\text{ m} = 26\text{ m}$



2

Regular pentagon: $6\text{ cm} \times 5\text{ sides} = 30\text{ cm}$



3

Irregular shape: add each outside edge



MEASURING PERIMETER

1.



Trace the outside edge.

2.



Label or measure each side.

3.



Add all side lengths.

4.



Write the correct unit.

Useful tools



Ruler: small objects in centimetres



Tape measure: desks, rooms and gardens in metres



Trundle wheel: courts, paths and larger spaces in metres



Map scale: very large distances in kilometres

Remember



- Only measure the outside edge.
- Use the written measurements when a drawing is not to scale.
- Check that your answer has a unit.

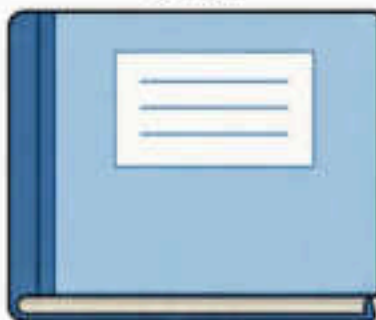
Example 1

Book cover:

$$22 \text{ cm} + 22 \text{ cm} + 15 \text{ cm} + 15 \text{ cm} = 74 \text{ cm}$$

22 cm

15 cm



15 cm

22 cm

Example 2

Garden bed:

$$9 \text{ m} + 9 \text{ m} + 4 \text{ m} + 4 \text{ m} = 26 \text{ m}$$

9 m

4 m



4 m

9 m

PERIMETER PARK ENCLOSURES

Roll, move, solve and build the fence.



Draw
a card

12



Bonus:
+2 points

11



Finish

18



Use the unit

16

15



Explain your strategy

14

13



Measure
carefully

7

Miss
a turn

Bonus:
+2 points

④



2

Rectangle plot



Pentagon plot



Irregular plot



Triangle plot



Player names

Score



PERIMETER PARK CHALLENGE CARDS



1

Rectangle pen:
8 m by 5 m.
Find the perimeter.



2

Square garden:
each side is 6 m.
Find the perimeter.



3

Triangle yard:
7 m, 8 m and 9 m.
Find the perimeter.



4

Pentagon plot:
each side is 4 m.
Find the perimeter.



5

Dog run:
12 m by 3 m.
Find the perimeter.



6

Irregular pen:
add 6 m, 4 m,
3 m, 5 m and 8 m.



7

Choose a tool
for measuring
a school oval
boundary.



8

Explain what
not to scale
means.



9

A fence is 34 m
around. Name two
possible rectangle
sizes.



10

A path is 18 m,
9 m, 18 m and 9 m.
Find the perimeter.



11

Draw a shape
with a perimeter
of 24 cm.



12

Convert your
answer:
300 cm = ___ m.



CRACK THE PERIMETER CODE

Name: _____

Find each perimeter. Match the answer to the code table.
Write the letters to reveal the mystery word.

Code table

18 cm = G

24 m = A

31 cm = R

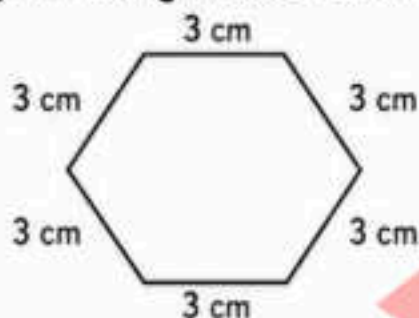
27 cm = D

42 m = E

36 cm = N

Mystery word:

1. Regular hexagon: each side is 3 cm.



Perimeter: _____

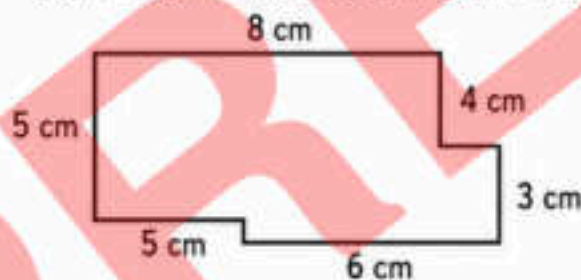
2. Rectangle: 8 m by 4 m.



Perimeter: _____

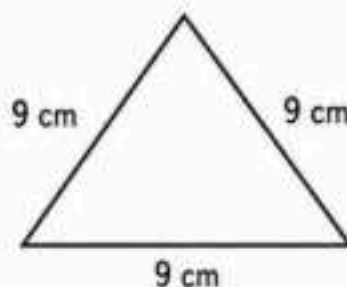
3. Irregular shape:

8 cm + 5 cm + 4 cm + 3 cm + 6 cm + 5 cm.



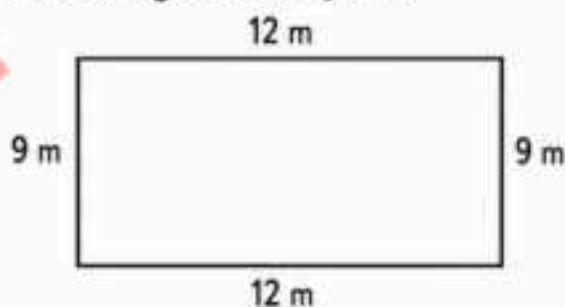
Perimeter: _____

4. Triangle: 9 cm, 9 cm and 9 cm.



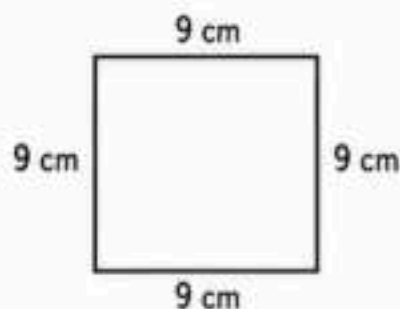
Perimeter: _____

5. Rectangle: 12 m by 9 m.



Perimeter: _____

6. Square courtyard: each side is 9 cm.



Perimeter: _____

CRACK THE PERIMETER CODE

Name: ANSWERS

Find each perimeter. Match the answer to the code table.
Write the letters to reveal the mystery word.

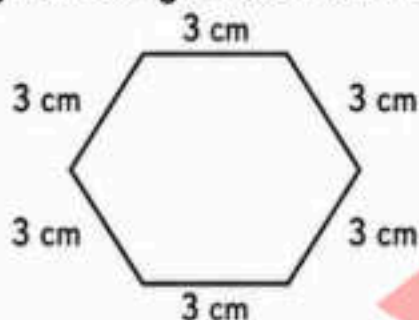
Code table

18 cm = G	24 m = A
31 cm = R	27 cm = D
42 m = E	36 cm = N

Mystery word:

G A R D E N

1. Regular hexagon: each side is 3 cm.



Perimeter: 18 cm

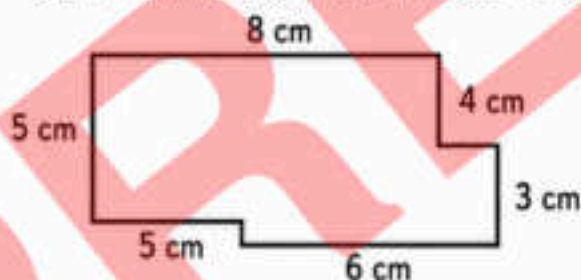
2. Rectangle: 8 m by 4 m.



Perimeter: 24 m

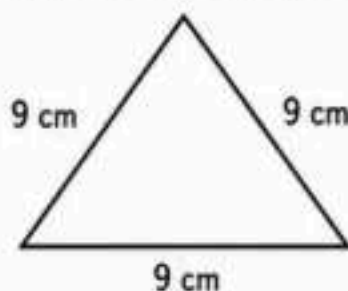
3. Irregular shape:

8 cm + 5 cm + 4 cm + 3 cm + 6 cm + 5 cm.



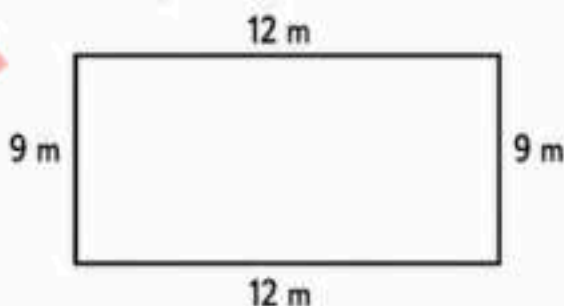
Perimeter: 31 cm

4. Triangle: 9 cm, 9 cm and 9 cm.



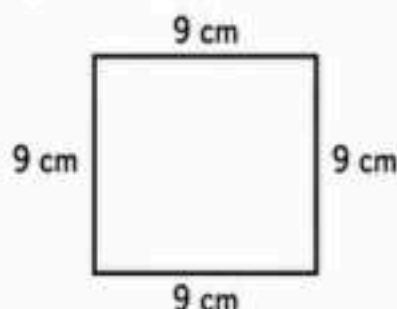
Perimeter: 27 cm

5. Rectangle: 12 m by 9 m.



Perimeter: 42 m

6. Square courtyard: each side is 9 cm.



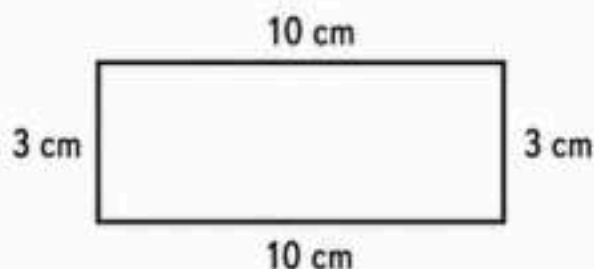
Perimeter: 36 cm

PERIMETER PUZZLE PATHS

Name: _____

Calculate the perimeter of each shape. Show your working out.

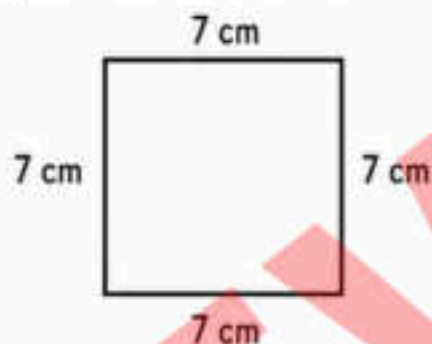
1. Rectangle: 10 cm by 3 cm



Working out: _____

Perimeter: _____

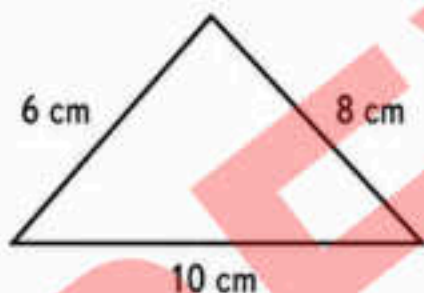
2. Square: each side is 7 cm



Working out: _____

Perimeter: _____

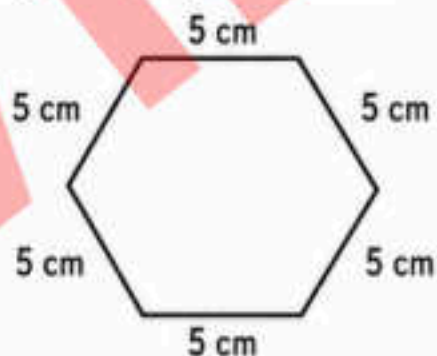
3. Triangle: 6 cm, 8 cm and 10 cm



Working out: _____

Perimeter: _____

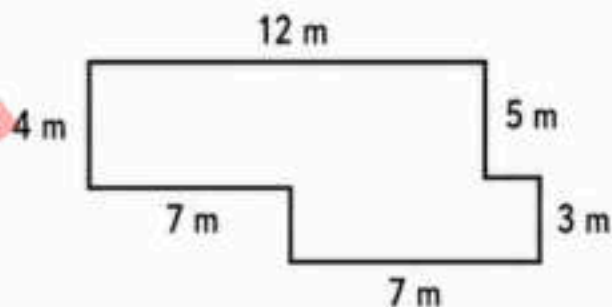
4. Regular hexagon: each side is 5 cm



Working out: _____

Perimeter: _____

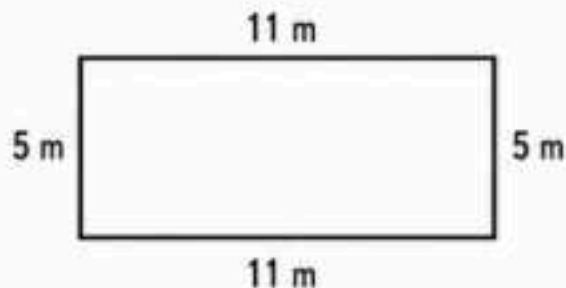
5. Irregular path: 12 m, 4 m, 5 m, 3 m, 7 m and 7 m



Working out: _____

Perimeter: _____

6. Playground rectangle: 11 m by 5 m



Working out: _____

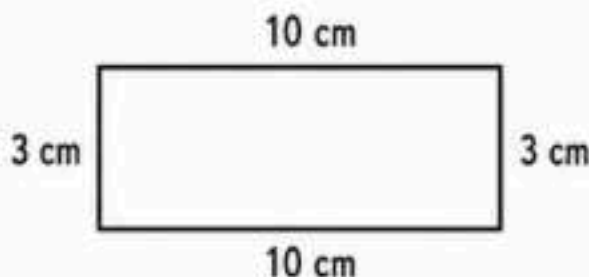
Perimeter: _____

PERIMETER PUZZLE PATHS

Name: ANSWERS

Calculate the perimeter of each shape. Show your working out.

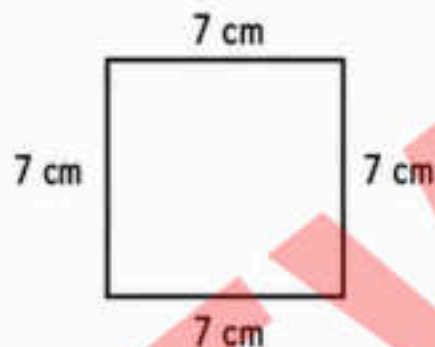
1. Rectangle: 10 cm by 3 cm



Working out: $10 + 10 + 3 + 3 = 26$

Perimeter: 26 cm

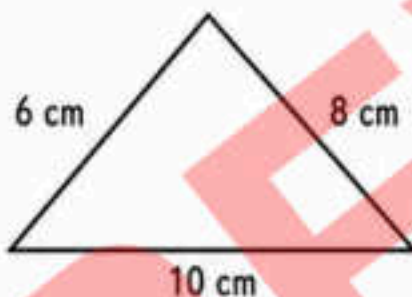
2. Square: each side is 7 cm



Working out: $7 \times 4 = 28$

Perimeter: 28 cm

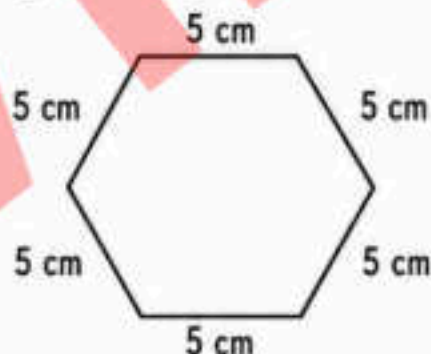
3. Triangle: 6 cm, 8 cm and 10 cm



Working out: $6 + 8 + 10 = 24$

Perimeter: 24 cm

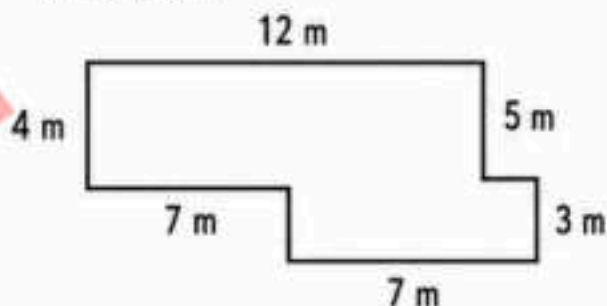
4. Regular hexagon: each side is 5 cm



Working out: $5 \times 6 = 30$

Perimeter: 30 cm

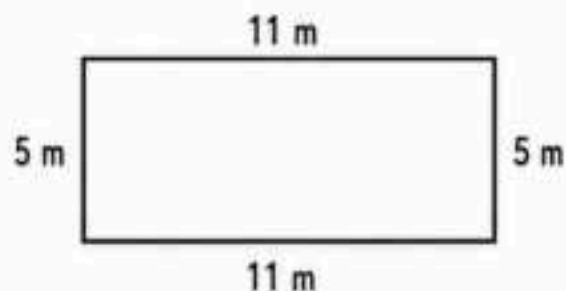
5. Irregular path: 12 m, 4 m, 5 m, 3 m, 7 m and 7 m



Working out: $12 + 4 + 5 + 3 + 7 + 7 = 38$

Perimeter: 38 m

6. Playground rectangle: 11 m by 5 m



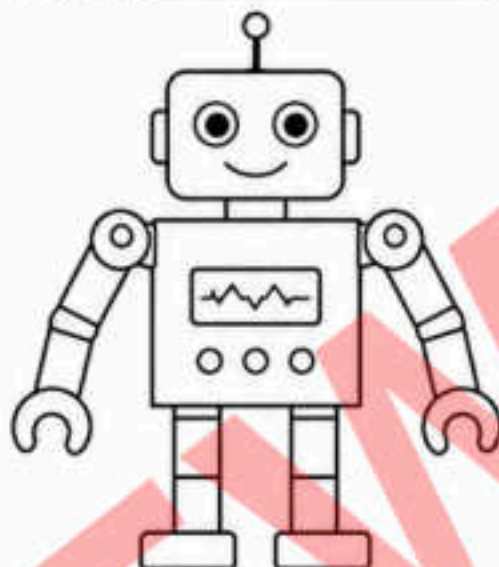
Working out: $11 + 11 + 5 + 5 = 32$

Perimeter: 32 m

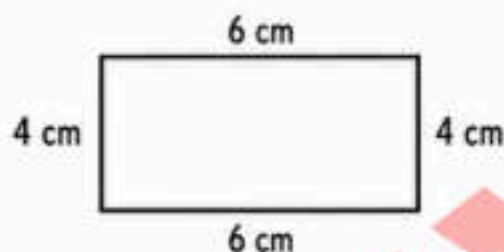
ROBOT PERIMETERS

Name: _____

Calculate the perimeter of each robot part.
Then find the total perimeter for the whole robot.

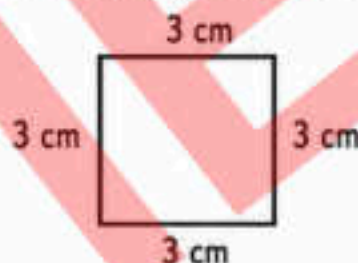


1. Head: rectangle 6 cm by 4 cm



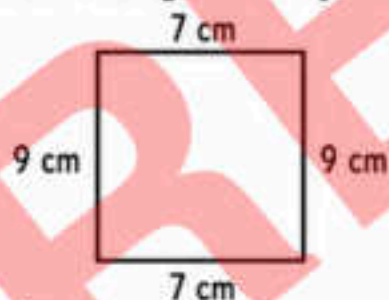
Perimeter: _____

2. Neck: square, each side is 3 cm



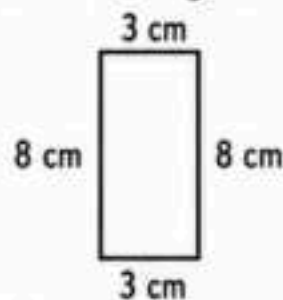
Perimeter: _____

3. Torso: rectangle 7 cm by 9 cm



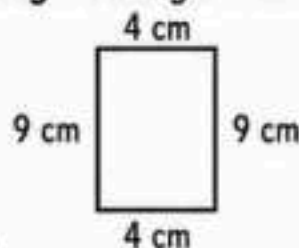
Perimeter: _____

4. One arm: rectangle 3 cm by 8 cm



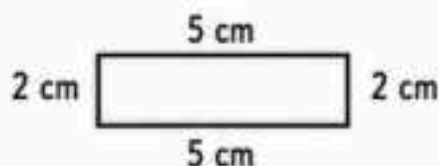
Perimeter: _____

5. One leg: rectangle 4 cm by 9 cm



Perimeter: _____

6. One foot: rectangle 5 cm by 2 cm



Perimeter: _____

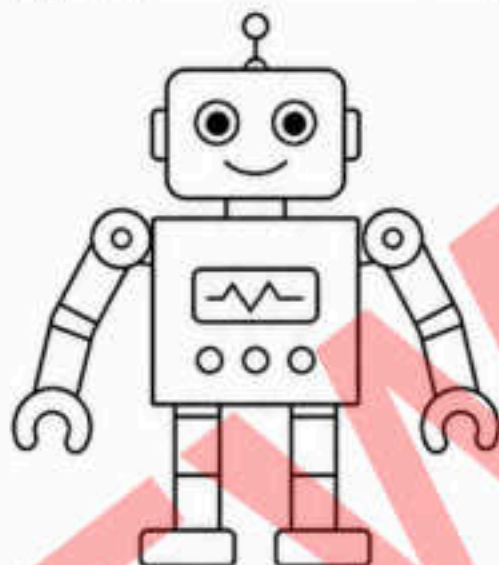
Challenge: whole robot perimeter

Head + neck + torso + 2 arms + 2 legs + 2 feet = _____

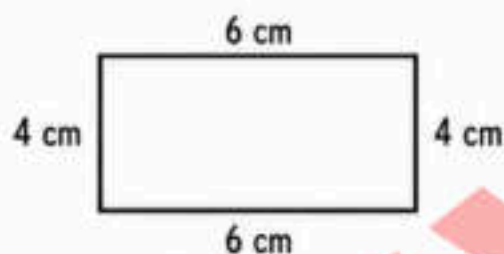
ROBOT PERIMETERS

Name: ANSWERS

Calculate the perimeter of each robot part.
Then find the total perimeter for the whole robot.

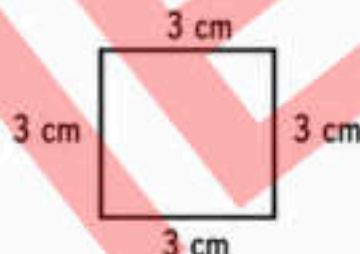


1. Head: rectangle 6 cm by 4 cm



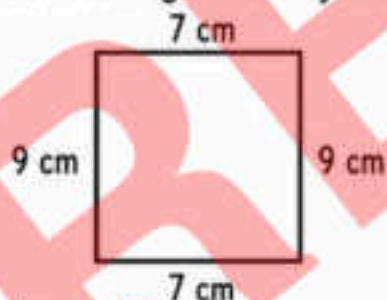
Perimeter: 20 cm

2. Neck: square, each side is 3 cm



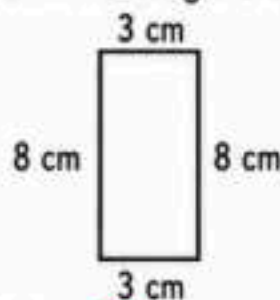
Perimeter: 12 cm

3. Torso: rectangle 7 cm by 9 cm



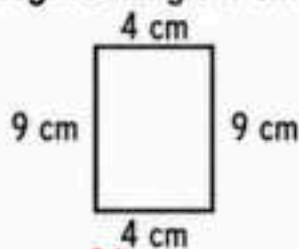
Perimeter: 32 cm

4. One arm: rectangle 3 cm by 8 cm



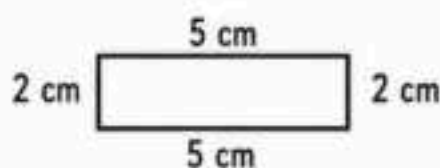
Perimeter: 22 cm

5. One leg: rectangle 4 cm by 9 cm



Perimeter: 26 cm

6. One foot: rectangle 5 cm by 2 cm



Perimeter: 14 cm

Challenge: whole robot perimeter

Head + neck + torso + 2 arms + 2 legs + 2 feet = 20 + 12 + 32 + 44 + 52 + 28 = 188 cm

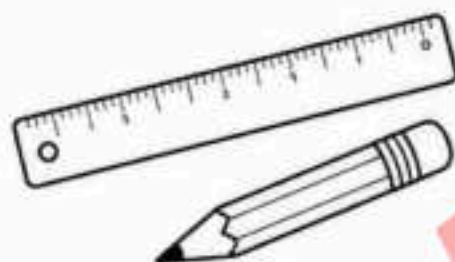
MY ROBOT DESIGN GRID

Name: _____

Design a robot using rectangles, squares, triangles and irregular polygons.

Label the side lengths for at least four parts.

Calculate the perimeter of each labelled part.



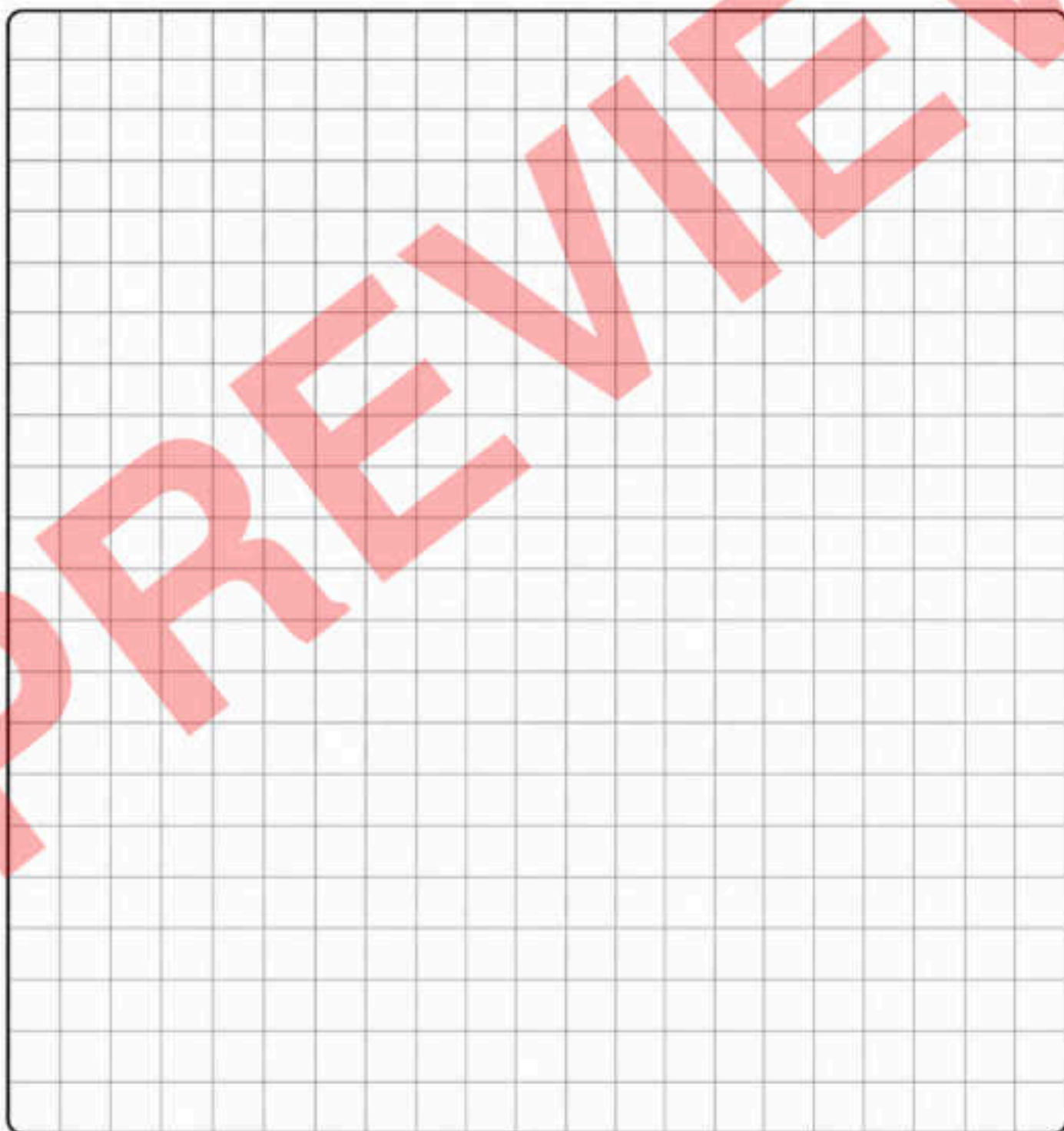
Robot name: _____

Part 1 perimeter: _____

Part 3 perimeter: _____

Part 2 perimeter: _____

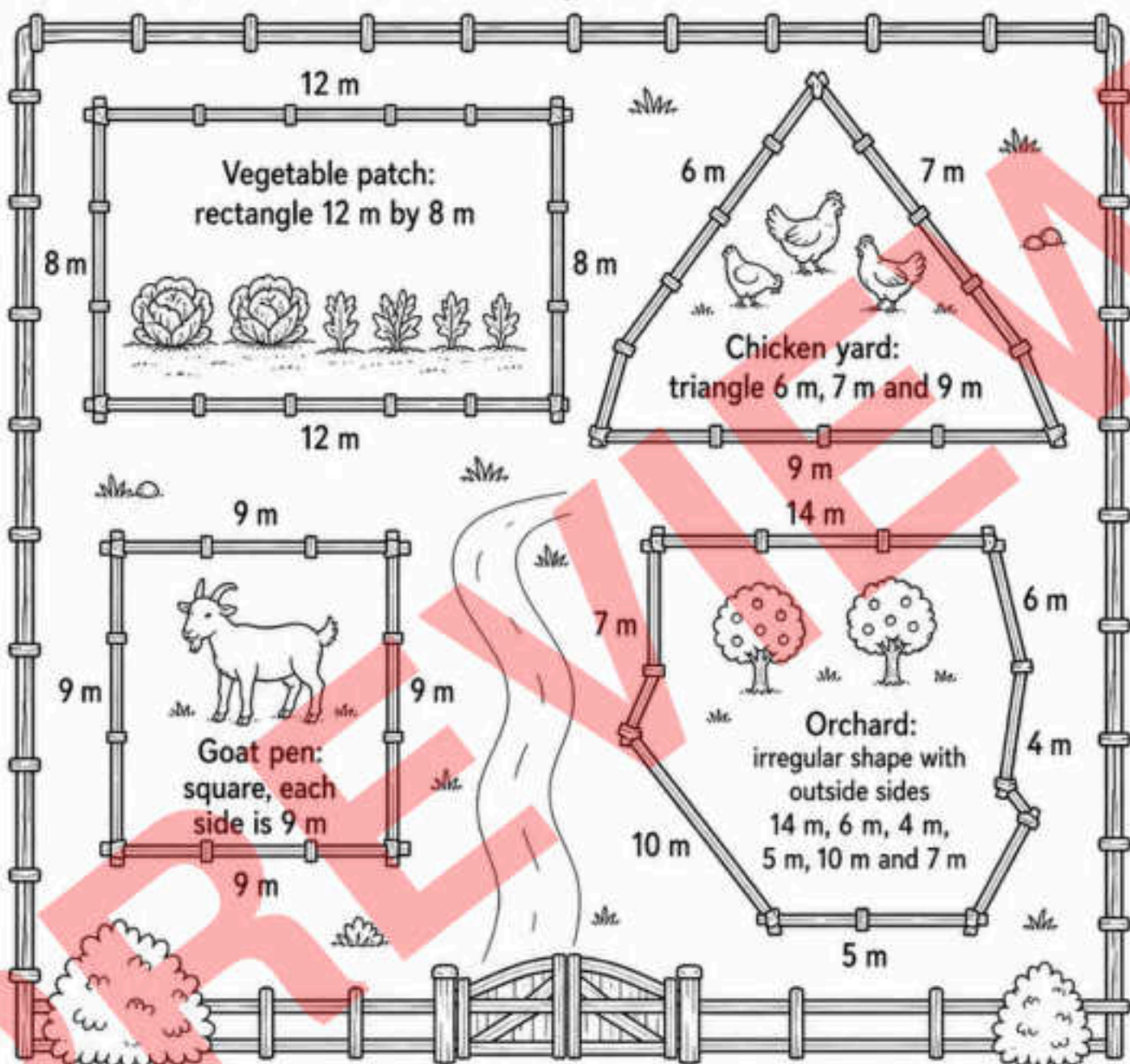
Part 4 perimeter: _____



FARMER FRED'S FENCE PLAN

Name: _____

Farmer Fred needs to check the perimeter of each enclosure.
Use the written measurements, not the picture size.



1. Vegetable patch perimeter: _____

2. Chicken yard perimeter: _____

3. Goat pen perimeter: _____

4. Orchard perimeter: _____

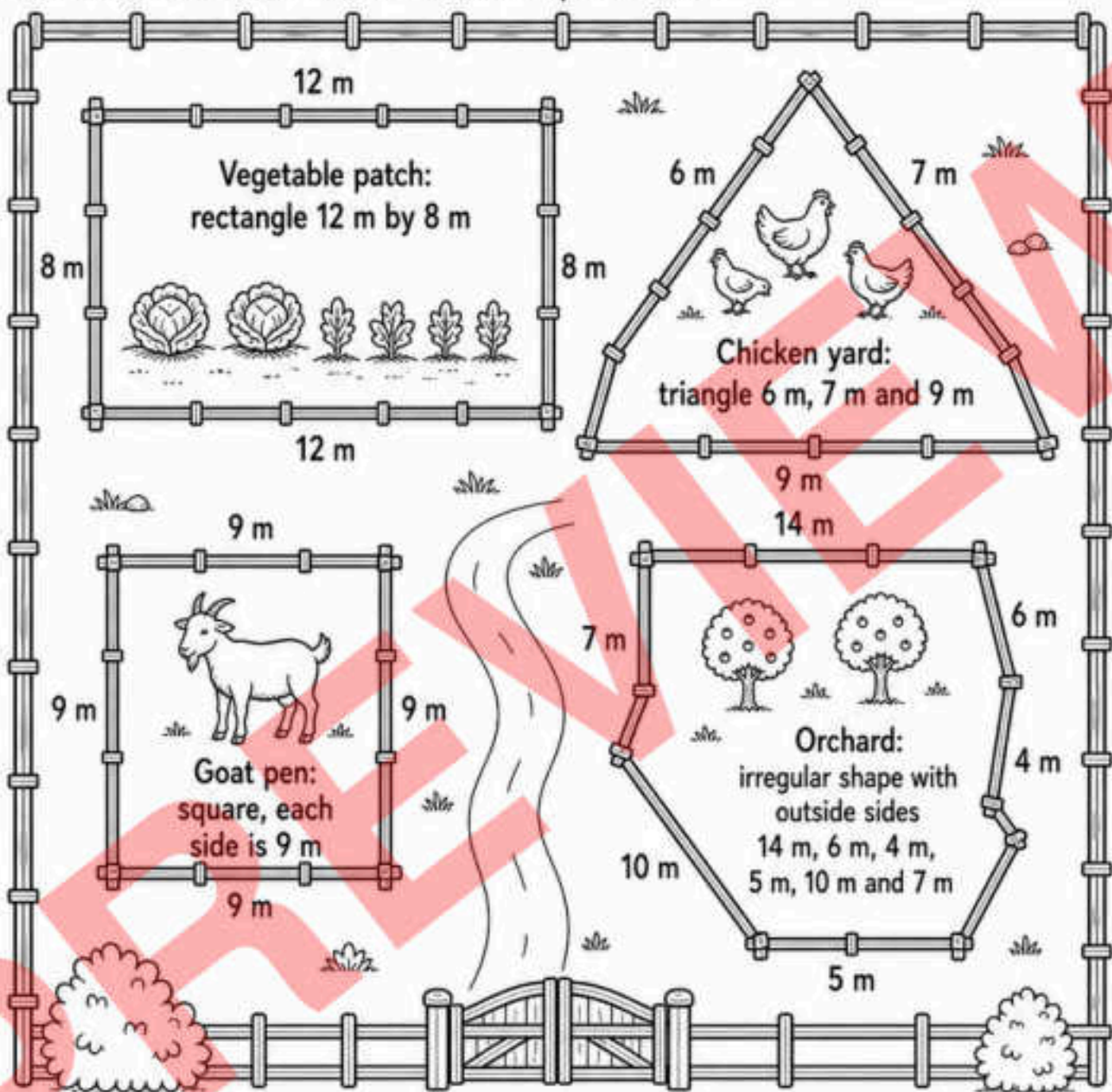
5. Does Fred have enough fencing if he has 120 m? Yes / No

Explain: _____

FARMER FRED'S FENCE PLAN

Name: **ANSWERS**

Farmer Fred needs to check the perimeter of each enclosure.
Use the written measurements, not the picture size.



1. Vegetable patch perimeter: **40 m**

2. Chicken yard perimeter: **22 m**

3. Goat pen perimeter: **36 m**

4. Orchard perimeter: **46 m**

5. Does Fred have enough fencing if he has 120 m? Yes / **No**

Explain: **$40 + 22 + 36 + 46 = 144$ m. Fred needs 144 m, so 120 m is not enough.**

FARMER FRED'S RECORDING SHEET

Name: _____

Use the farm map to record each enclosure's side lengths, number sentence and perimeter.

Enclosure	Side lengths	Number sentence	Perimeter
Vegetable patch			
Chicken yard			
Goat pen			
Orchard			

Total fencing needed: _____

Fred has 120 m of fencing. Circle one: Enough / Not enough

How do you know? _____

Extension: Change one enclosure so Fred can use 120 m or less. Draw or describe your change.

Extension plan

FARMER FRED'S RECORDING SHEET

Name: ANSWERS

Use the farm map to record each enclosure's side lengths, number sentence and perimeter.

Enclosure	Side lengths	Number sentence	Perimeter
Vegetable patch	12 m, 8 m, 12 m, 8 m	$12 + 8 + 12 + 8$	40 m
Chicken yard	6 m, 7 m, 9 m	$6 + 7 + 9$	22 m
Goat pen	9 m, 9 m, 9 m, 9 m	9×4	36 m
Orchard	14 m, 6 m, 4 m, 5 m, 10 m, 7 m	$14 + 6 + 4 + 5 + 10 + 7$	46 m

Total fencing needed: 144 m

Fred has 120 m of fencing. Circle one: Enough / Not enough

How do you know? 144 m is greater than 120 m, so Fred needs 24 m more.

Extension: Change one enclosure so Fred can use 120 m or less. Draw or describe your change.

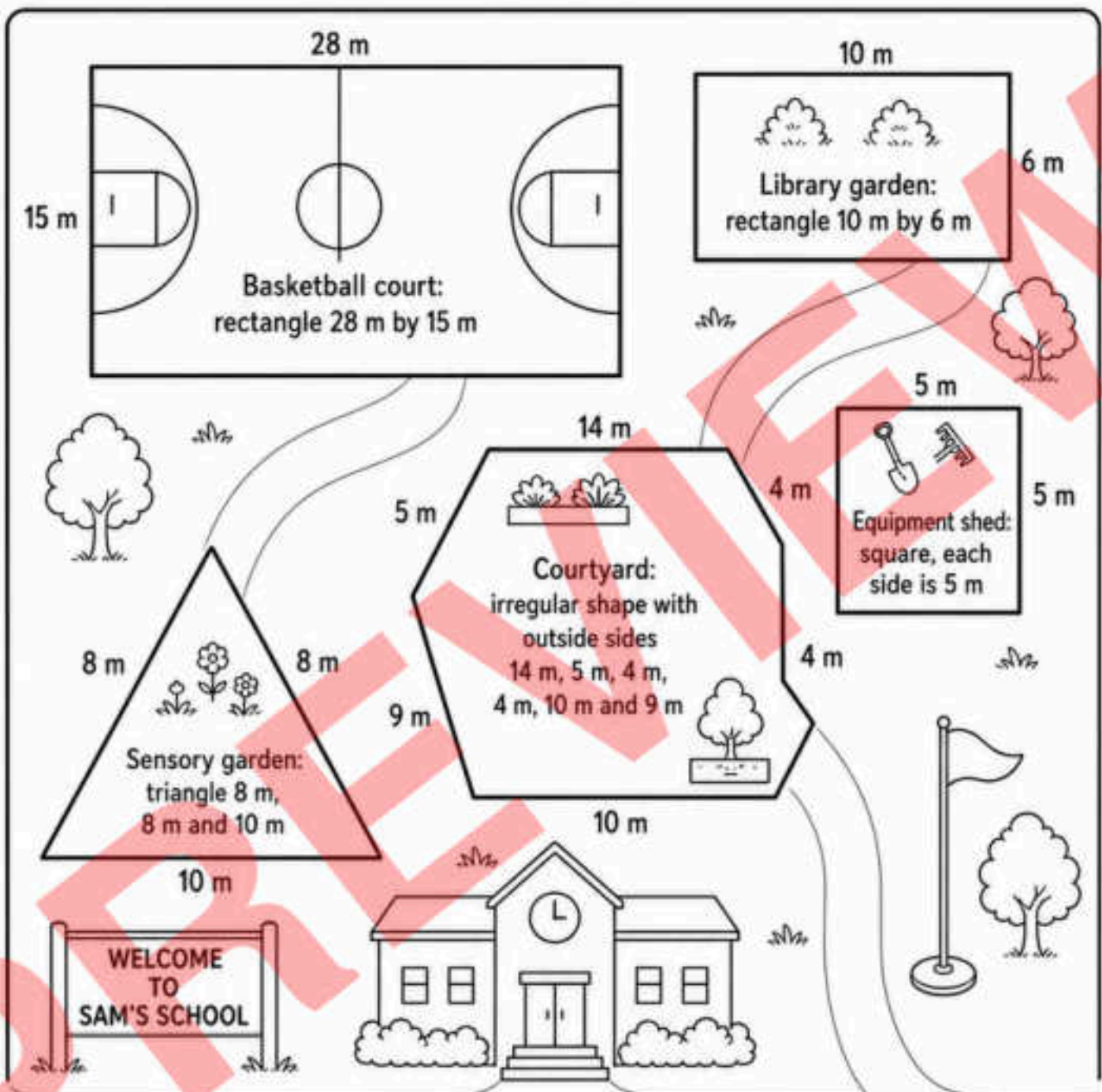
Extension plan

Example: reduce the orchard perimeter by 24 m.

SAM'S SCHOOL GROUNDS CHALLENGE

Name: _____

Sam is helping plan new edging around school spaces.
Use the written measurements, not the picture size.



1. Basketball court perimeter: _____

2. Library garden perimeter: _____

3. Equipment shed perimeter: _____

4. Sensory garden perimeter: _____

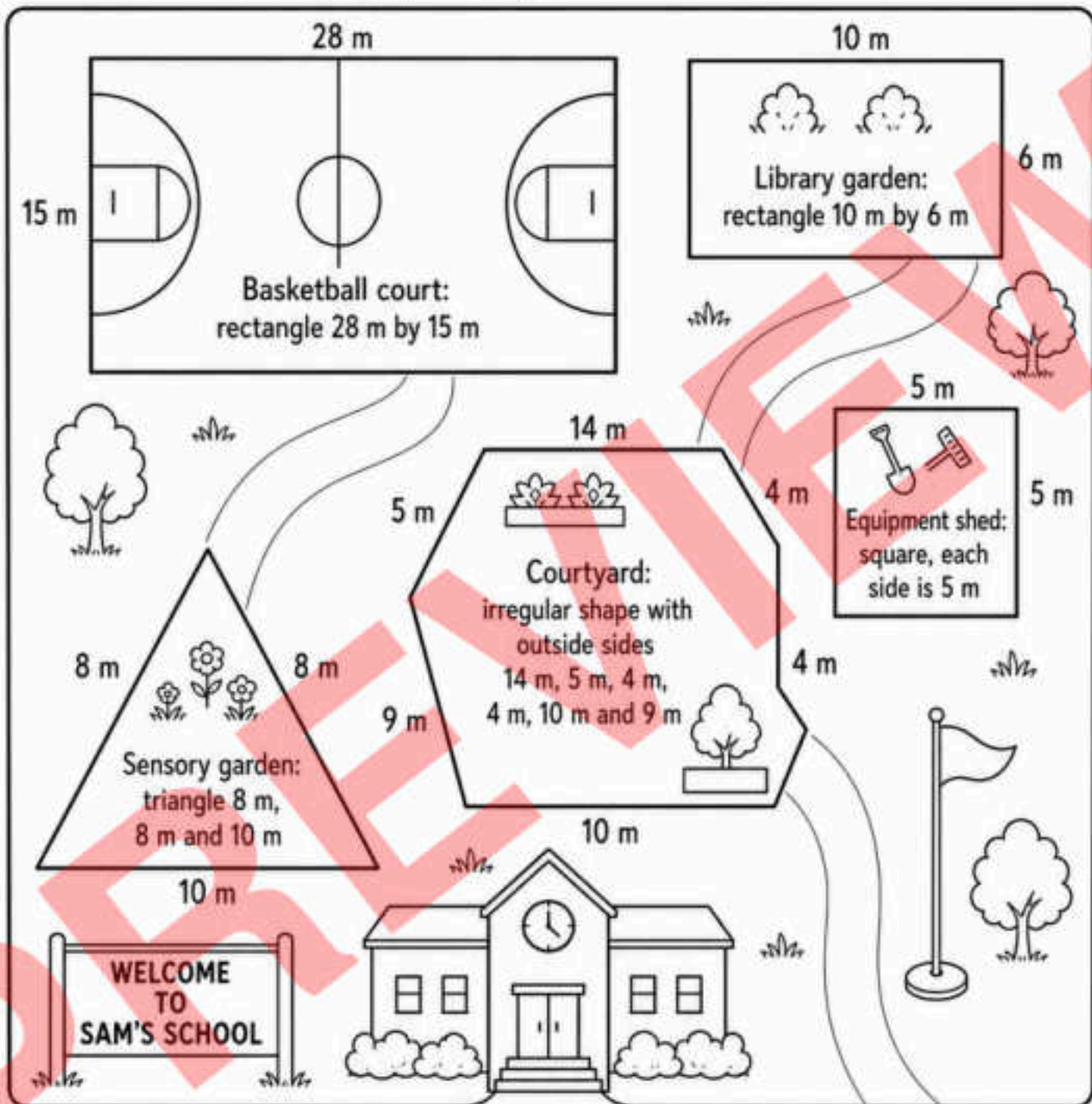
5. Courtyard perimeter: _____

6. Which space has the greatest perimeter? _____

SAM'S SCHOOL GROUNDS CHALLENGE

Name: **ANSWERS**

Sam is helping plan new edging around school spaces.
Use the written measurements, not the picture size.



1. Basketball court perimeter: **86 m**

2. Library garden perimeter: **32 m**

3. Equipment shed perimeter: **20 m**

4. Sensory garden perimeter: **26 m**

5. Courtyard perimeter: **46 m**

6. Which space has the greatest perimeter? **Basketball court**

SAM'S SCHOOL RECORDING SHEET

Name: _____

Use the school map to show how you calculated each perimeter.

School space	Side lengths	Calculation	Perimeter
Basketball court			
Library garden			
Equipment shed			
Sensory garden			
Courtyard			

Greatest perimeter: _____

Smallest perimeter: _____

Explain one strategy you used: _____

Challenge: Choose two spaces. What is their combined perimeter?

Spaces: _____ and _____

Combined perimeter: _____

SAM'S SCHOOL RECORDING SHEET

Name: ANSWERS

Use the school map to show how you calculated each perimeter.

School space	Side lengths	Calculation	Perimeter
Basketball court	28 m, 15 m, 28 m, 15 m	$28 + 15 + 28 + 15$	86 m
Library garden	10 m, 6 m, 10 m, 6 m	$10 + 6 + 10 + 6$	32 m
Equipment shed	5 m, 5 m, 5 m, 5 m	5×4	20 m
Sensory garden	8 m, 8 m, 10 m	$8 + 8 + 10$	26 m
Courtyard	14 m, 5 m, 4 m, 4 m, 10 m, 9 m	$14 + 5 + 4 + 4 + 10 + 9$	46 m

Greatest perimeter: Basketball court

Smallest perimeter: Equipment shed

Explain one strategy you used: I added each outside side and kept the metres unit.

Challenge: Choose two spaces. What is their combined perimeter?

Spaces: Basketball court and courtyard

Combined perimeter: Basketball court and courtyard = 132 m

PERIMETER WORD PROBLEMS

Name: _____

Read each problem. Draw a quick sketch, write your calculation and answer with a unit.

1. A swimming pool is 8 m long and 4 m wide. How many metres of safety fence are needed around the pool?

Sketch:

Calculation: _____

Answer: _____

2. A triangular dog run has sides of 5 m, 6 m and 8 m. What is its perimeter?

Sketch:

Calculation: _____

Answer: _____

3. A school banner is 3 m long and 1.5 m wide. Ribbon is placed around the outside edge. How many metres of ribbon are needed?

Sketch:

Calculation: _____

Answer: _____

4. A garden path has outside sides of 14 m, 6 m, 4 m, 3 m, 10 m and 9 m. What is the total perimeter?

Sketch:

Calculation: _____

Answer: _____

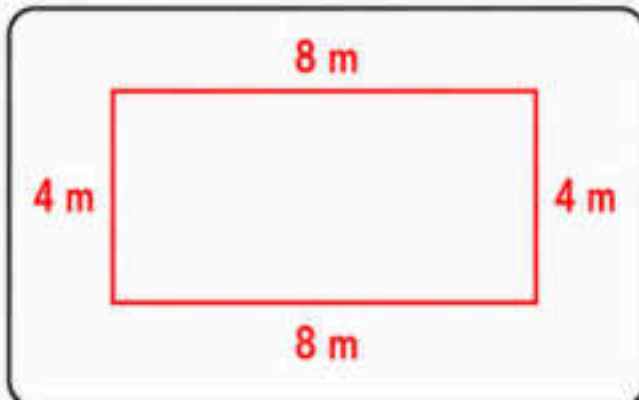
PERIMETER WORD PROBLEMS

Name: **ANSWERS**

Read each problem. Draw a quick sketch, write your calculation and answer with a unit.

1. A swimming pool is 8 m long and 4 m wide. How many metres of safety fence are needed around the pool?

Sketch:

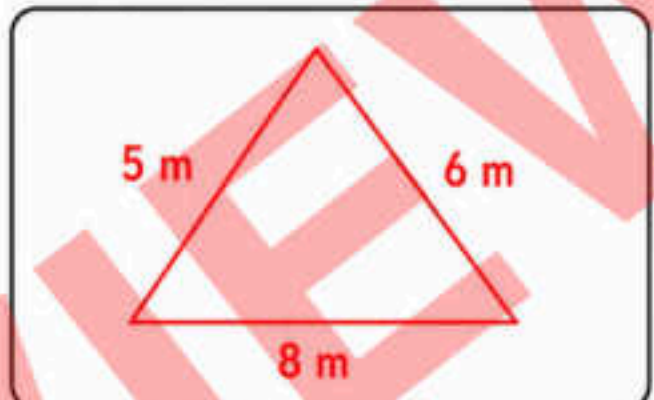


Calculation: $8 + 8 + 4 + 4 = 24$

Answer: 24 m

2. A triangular dog run has sides of 5 m, 6 m and 8 m. What is its perimeter?

Sketch:



Calculation: $5 + 6 + 8 = 19$

Answer: 19 m

3. A school banner is 3 m long and 1.5 m wide. Ribbon is placed around the outside edge. How many metres of ribbon are needed?

Sketch:

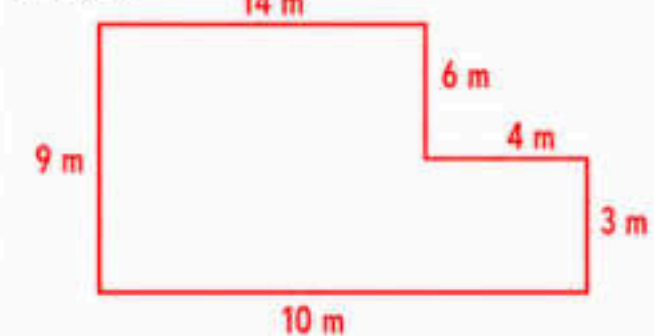


Calculation: $3 + 3 + 1.5 + 1.5 = 9$

Answer: 9 m

4. A garden path has outside sides of 14 m, 6 m, 4 m, 3 m, 10 m and 9 m. What is the total perimeter?

Sketch:



Calculation: $14 + 6 + 4 + 3 + 10 + 9 = 46$

Answer: 46 m

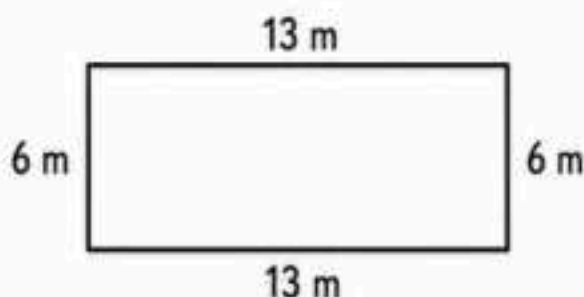
PERIMETER CHECK-UP - PAGE 1

Name: _____

Show your working out. Include the correct unit in each answer.

1. What does perimeter mean?

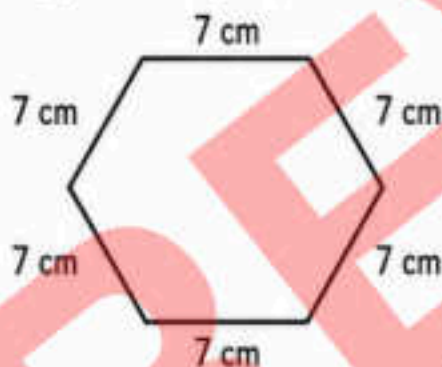
2. A rectangular vegetable bed is 13 m long and 6 m wide. What is its perimeter?



Working out: _____

Answer: _____

3. A regular hexagon has sides that are each 7 cm. What is its perimeter?



Working out: _____

Answer: _____

4. An irregular path has outside sides of 8 cm, 5 cm, 3 cm, 2 cm, 5 cm and 7 cm. What is its perimeter?

Working out: _____

Answer: _____

5. Circle the best tool and unit for measuring the perimeter of a classroom mat.

Tool: ruler / tape measure / trundle wheel

Unit: centimetres / metres / kilometres

Explain your choice: _____

PERIMETER CHECK-UP - PAGE 2

Name: _____

Continue showing your working out.

6. Draw a shape with a perimeter of 24 cm. Label the side lengths.



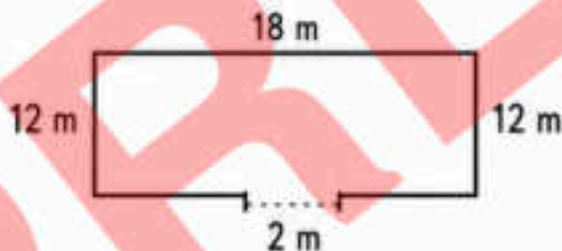
7. A rectangle is 11 m long and 5 m wide. Is its perimeter equal to 32 m? Explain.



Working out: _____

Explanation: _____

8. A playground is 18 m long and 12 m wide. A 2 m gate opening will not need fencing. How much fencing is needed?

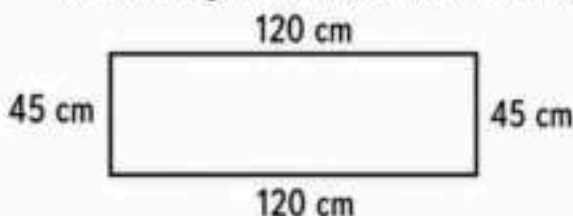


Working out: _____

Answer: _____

9. A map says 'not to scale'. What should you use to calculate perimeter?

10. A sign is 120 cm long and 45 cm wide. Ribbon goes around the outside edge. How much ribbon is needed?



Working out: _____

Answer: _____

PERIMETER CHECK-UP - PAGE 1

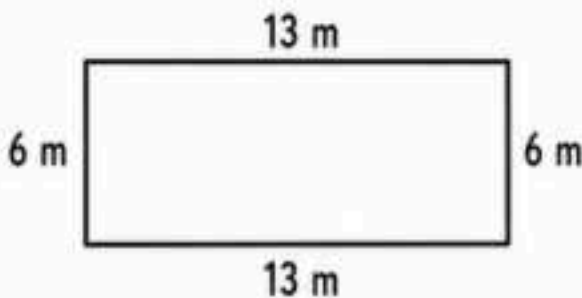
Name: ANSWERS

Show your working out. Include the correct unit in each answer.

1. What does perimeter mean?

Perimeter is the distance around the outside edge of a shape.

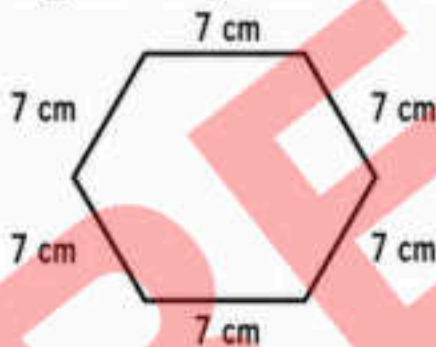
2. A rectangular vegetable bed is 13 m long and 6 m wide. What is its perimeter?



Working out: $13 + 13 + 6 + 6 = 38$

Answer: 38 m

3. A regular hexagon has sides that are each 7 cm. What is its perimeter?



Working out: $7 \times 6 = 42$

Answer: 42 cm

4. An irregular path has outside sides of 8 cm, 5 cm, 3 cm, 2 cm, 5 cm and 7 cm. What is its perimeter?

Working out: $8 + 5 + 3 + 2 + 5 + 7 = 30$

Answer: 30 cm

5. Circle the best tool and unit for measuring the perimeter of a classroom mat.

Tool: ruler / tape measure / trundle wheel

Unit: centimetres / metres / kilometres

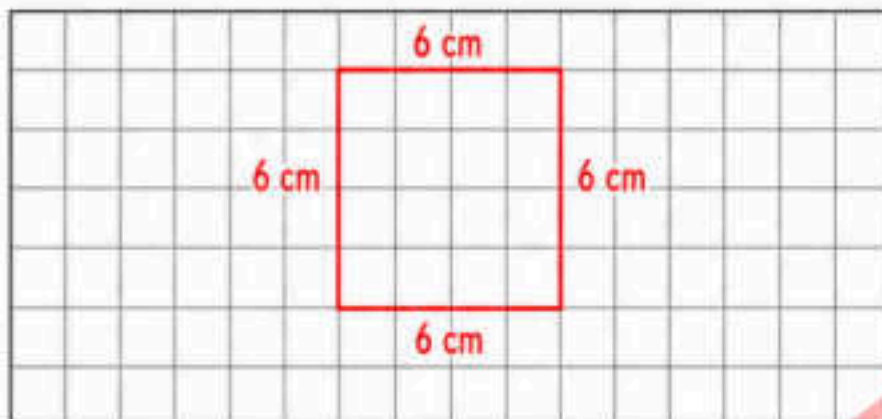
Explain your choice: A mat is larger than a small object, so metres and a tape measure are sensible.

PERIMETER CHECK-UP - PAGE 2

Name: **ANSWERS**

Continue showing your working out.

6. Draw a shape with a perimeter of 24 cm. Label the side lengths.



$$6 + 6 + 6 + 6 = 24 \text{ cm}$$

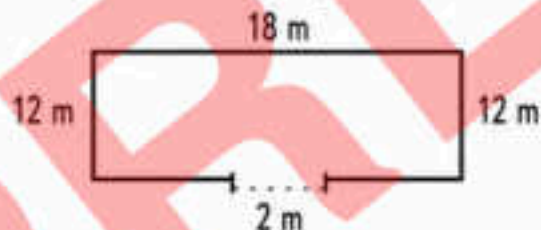
7. A rectangle is 11 m long and 5 m wide. Is its perimeter equal to 32 m? Explain.



Working out: $11 + 11 + 5 + 5 = 32$

Explanation: **Yes. The rectangle's perimeter is 32 m.**

8. A playground is 18 m long and 12 m wide. A 2 m gate opening will not need fencing. How much fencing is needed?



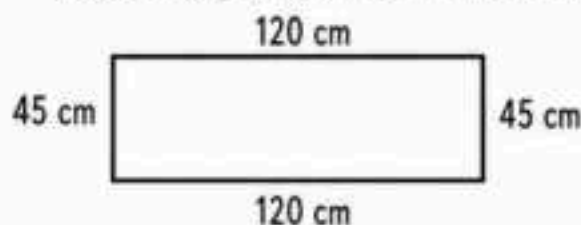
Working out: $18 + 18 + 12 + 12 = 60$; $60 - 2 = 58$

Answer: **58 m**

9. A map says 'not to scale'. What should you use to calculate perimeter?

Use the written measurements, not the drawing size.

10. A sign is 120 cm long and 45 cm wide. Ribbon goes around the outside edge. How much ribbon is needed?



Working out: $120 + 120 + 45 + 45 = 330$

Answer: **330 cm**

PERIMETER - YEAR 4 RUBRIC

AC9M4M02 – Perimeter, measurement units and practical problem solving

	BEGINNING	DEVELOPING	ACHIEVING	CONFIDENT	EXCEEDING
Understanding perimeter	Needs support	Identifies outside edge	Explains perimeter	Connects perimeter to real contexts	Generalises perimeter rules
Calculating perimeter	Counts some sides	Adds simple shapes	Calculates regular and irregular shapes	Uses efficient strategies	Handles complex shapes accurately
Using units and tools	Units often missing	Chooses common units	Uses suitable units and tools	Justifies unit and tool choices	Compares units and tools precisely
Solving practical problems	Needs help to start	Solves familiar tasks	Solves map and word problems	Solves multi-step tasks	Creates and solves new problems
Explaining reasoning	Limited explanation	Gives a basic reason	Shows clear working	Checks and explains answers	Explains strategies in detail

Perimeter - Year 4



What Is Perimeter?

Perimeter is the total distance around the outside edge of a shape.

We calculate perimeter by adding every side length.

The answer must include a unit.



Around The Outside

Perimeter follows the boundary, not the inside area.

Trace the edge with your finger before you add.

Only count each outside side once.



Tools And Units

Use a ruler for small objects measured in centimetres.

Use a tape measure for rooms, desks and gardens measured in metres.

Use a trundle wheel for courts, paths and larger spaces.



Not To Scale

A drawing may be smaller than the real object.

When a diagram says not to scale, use the written measurements.

Do not estimate from the picture size.



Regular Shapes

A regular shape has equal side lengths.

Perimeter shortcut: one side $\times$ number of sides.

A regular pentagon with 6 cm sides has perimeter 30 cm.



Rectangles And Squares

Rectangles have two matching lengths and two matching widths.

Shortcut: $2 \times \text{length} + 2 \times \text{width}$.

Squares have four equal sides.



Irregular Shapes

Irregular shapes can still have a perimeter.

List every outside side.

Add carefully and check that no side has been missed.



Grid Perimeters

Grid paper can help you count side lengths.

Each grid square can represent 1 cm or another given unit.

Follow the outside edge around the shape.



Real-World Perimeter

Fencing, garden edging, ribbon, frames and sports courts all use perimeter.

The context helps you choose a sensible tool and unit.



Perimeter Park

In the park game, calculate enclosure perimeters before moving on.

Explain your strategy to a partner.

Compare different shapes with the same perimeter.



Crack The Code

Find each perimeter first.

Match your answer to the code table.

Check the mystery word by reviewing your calculations.



Map Challenges

Farm and school maps show perimeter in practical settings.

Use written measurements.

Record side lengths before calculating.



Word Problems

Read the question carefully.

Sketch the shape.

Write a number sentence and answer with a unit.



Common Mistakes

Do not calculate area when the question asks for perimeter.

Do not forget repeated sides.

Do not leave off the unit.



Review

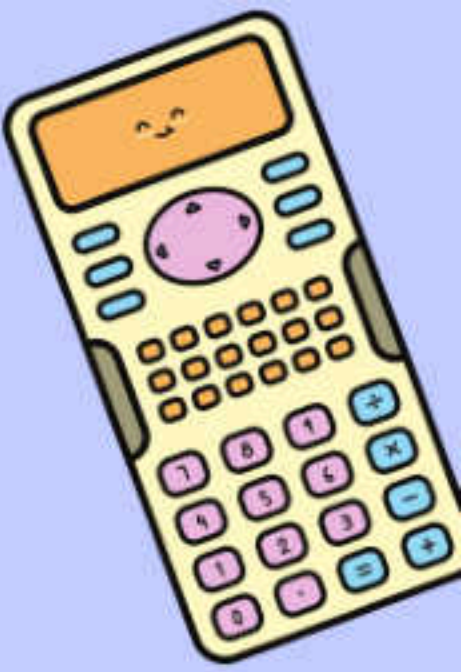
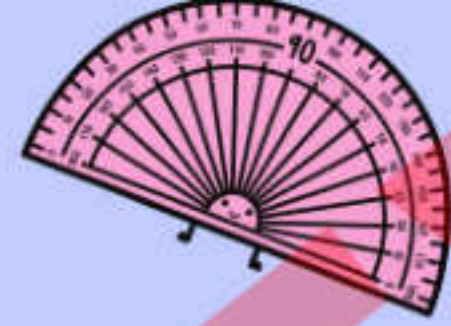
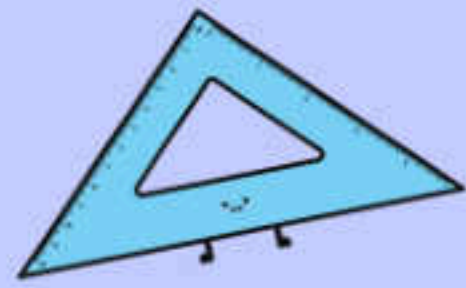
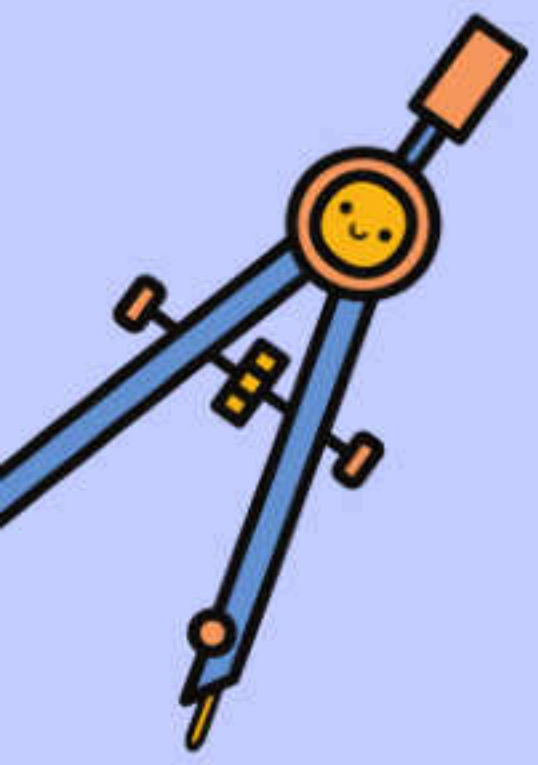
Perimeter means distance around the outside.

Use all outside side lengths.

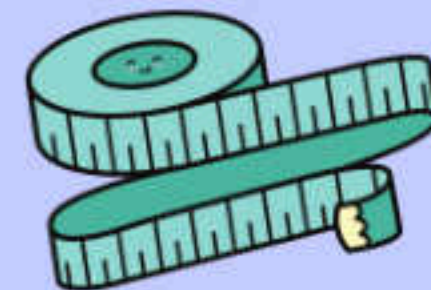
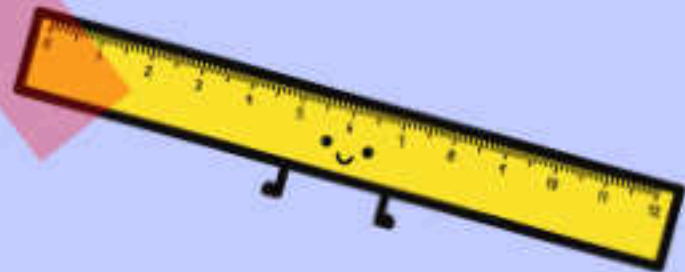
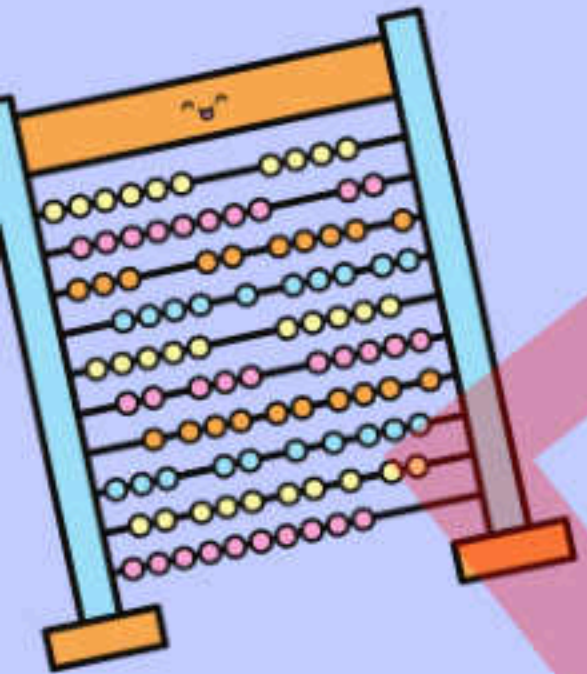
Choose sensible tools and units.

Explain your thinking clearly.





Well Done!



Perimeter - Year 4 Quiz



Question 1

Which statement best describes perimeter?

- A. The space inside a shape
- B. The distance around the outside edge
- C. The number of corners
- D. The colour of the shape



Answer 1

B. The distance around the outside edge



Question 2

True or false?

Perimeter **includes** only the inside area of a shape.



Answer 2

False. Perimeter follows the outside edge.



Question 3

A rectangle is 9 m long and 4 m wide.

What is its perimeter?



Answer 3

$$9 + 9 + 4 + 4 = 26 \text{ m}$$



Question 4

A regular hexagon has sides of 5 cm.

What is its perimeter?

A. 10 cm

B. 25 cm

C. 30 cm

D. 35 cm



Answer 4

C. 30 cm



Question 5

True or false?

If a drawing is not to scale, you should use the written measurements.



Answer 5

True.



Question 6

Find the perimeter:

8 cm, 5 cm, 3 cm, 2 cm, 5 cm and 7 cm.



Answer 6

$$8 + 5 + 3 + 2 + 5 + 7 = 30 \text{ cm}$$



Question 7

Which tool is most sensible for measuring a school oval boundary?

- A. Ruler
- B. Tape measure
- C. Trundle wheel
- D. Kitchen scales



Answer 7

C. Trundle wheel



Question 8

A square has a perimeter of 28 cm.
How long is each side?



Answer 8

28 divided by 4 = 7 cm



Question 9

True or false?

A perimeter answer should include a unit such as cm or m.



Answer q

True.



Question 10

A playground is 18 m by 12 m. A 2 m gate opening will not need fencing.

How much fencing is needed?

A. 30 m

B. 56 m

C. 58 m

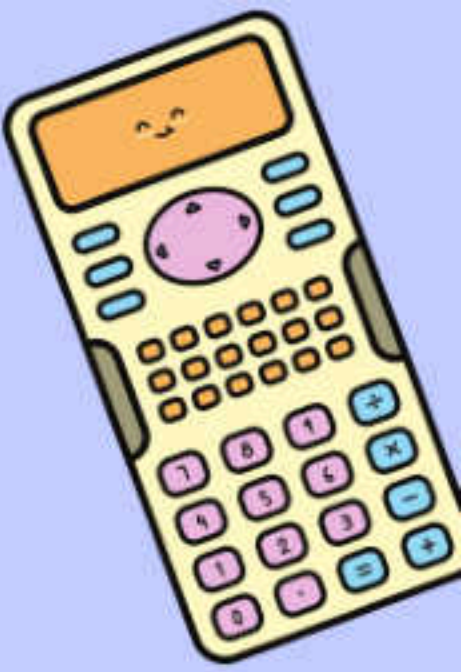
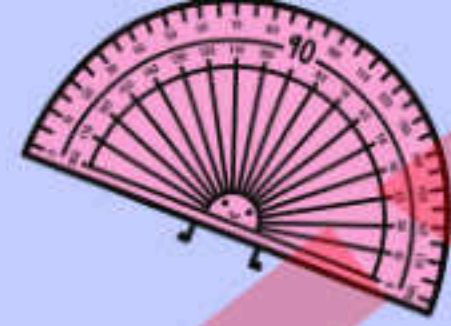
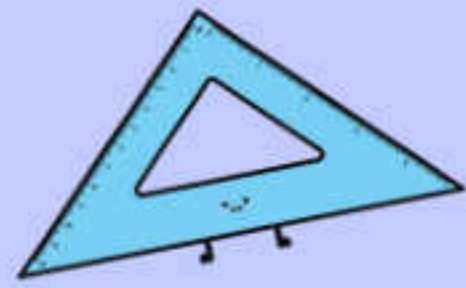
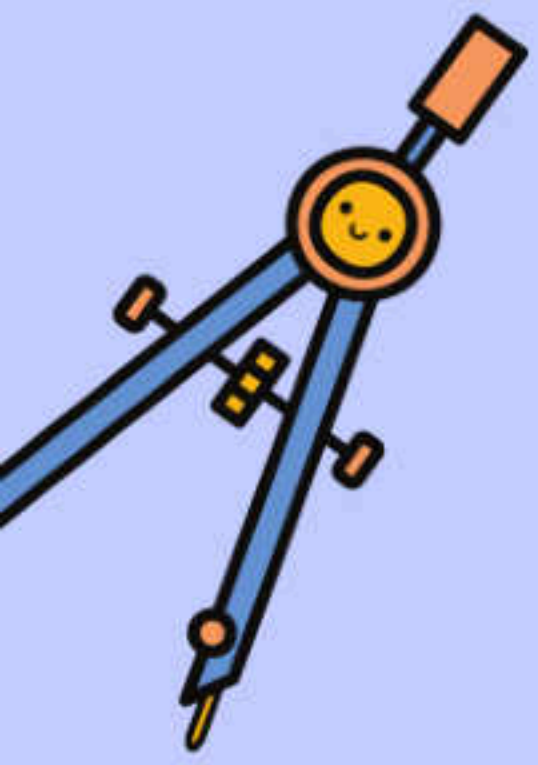
D. 60 m



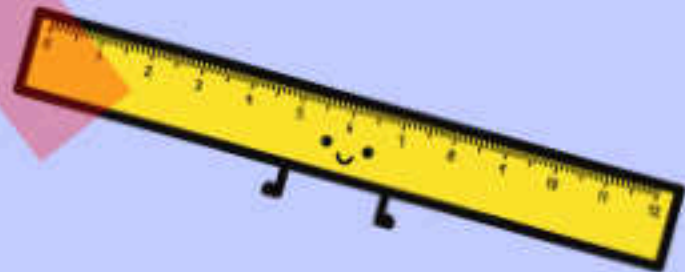
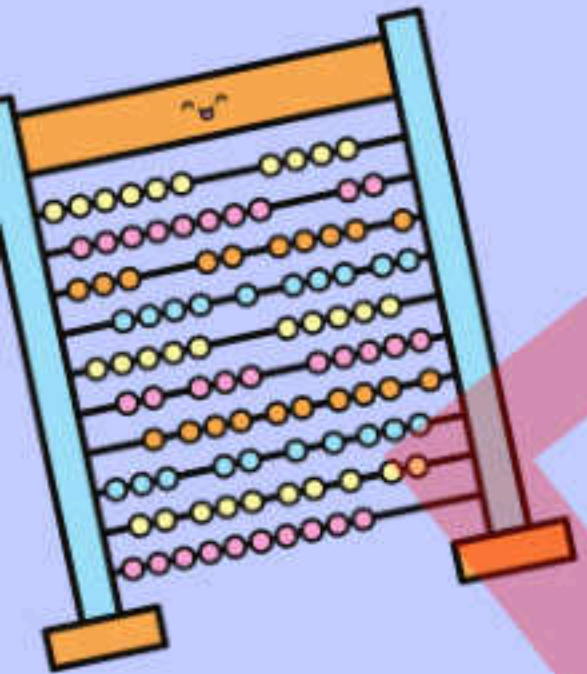
Answer 10

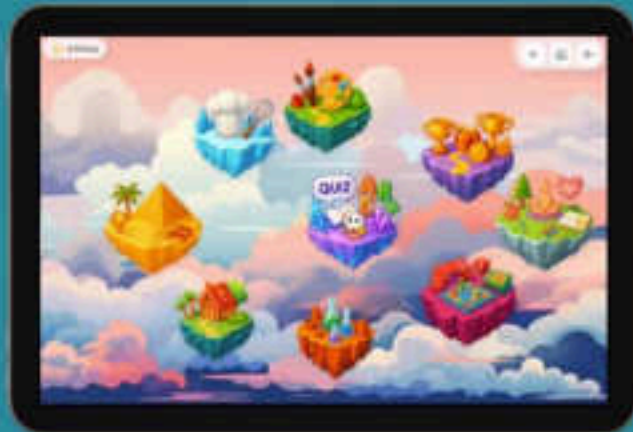
C. 58 m





Great Work!





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Perimeter - Year 5

Table of Contents	
Presentation: Perimeter - Year 5	
Classroom Display: Perimeter Quick Guide	
Game: Perimeter Pathway Game	
Activity: Design A School Garden	
Worksheet: Perimeter Basics	
Worksheet: Perimeter of Polygons	
Worksheet: Compound Shape Perimeters	
Worksheet: Real-World Perimeter Problems	
Worksheet: Perimeter Around Us	
Worksheet: Grid Perimeter Challenge	
Quiz: Perimeter - Year 5	
Assessment: Community Garden Fence Plan	
Rubric: Perimeter Year 5 Rubric	





PERIMETER

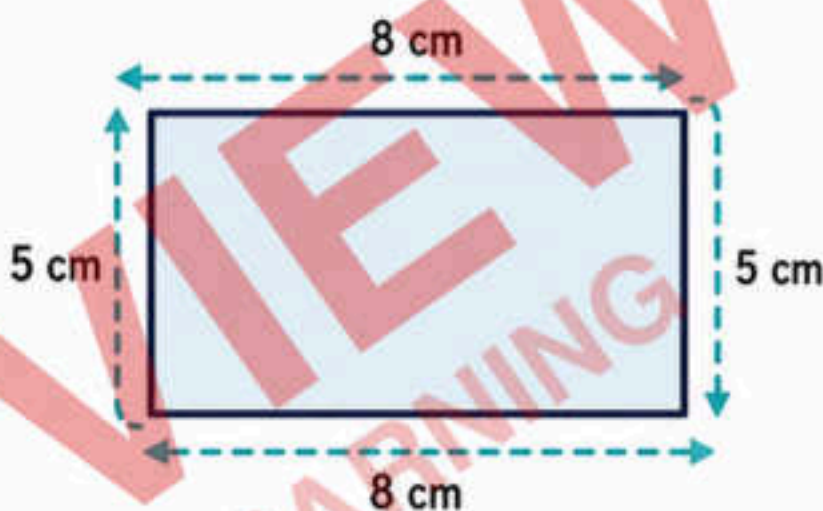
QUICK GUIDE



Perimeter is the distance around the outside of a **shape**.

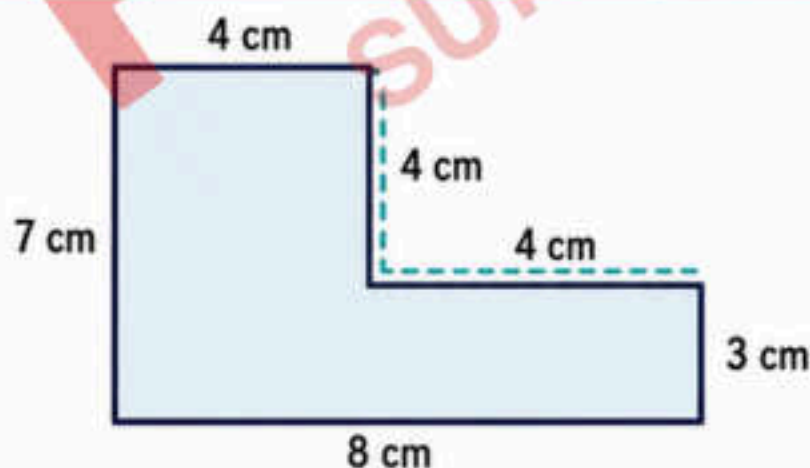
To find perimeter:

1. Read every side length.
2. Add all the side lengths.
3. Include the unit in your answer.



Example: $8\text{ cm} + 5\text{ cm} + 8\text{ cm} + 5\text{ cm} = 26\text{ cm}$

For a **compound shape**: use the known sides to work out any missing side lengths first.



Check: Did I count each outside edge once?

PERIMETER PATHWAY GAME

Name: _____



Players: 2-4

How to play:

1. Roll a die and move along the path.
2. Solve the perimeter card for your space.
3. If your partner agrees, stay there. If not, move back 1 space.
4. First player to finish wins.

Space types:



Rectangle =
add opposite
sides twice

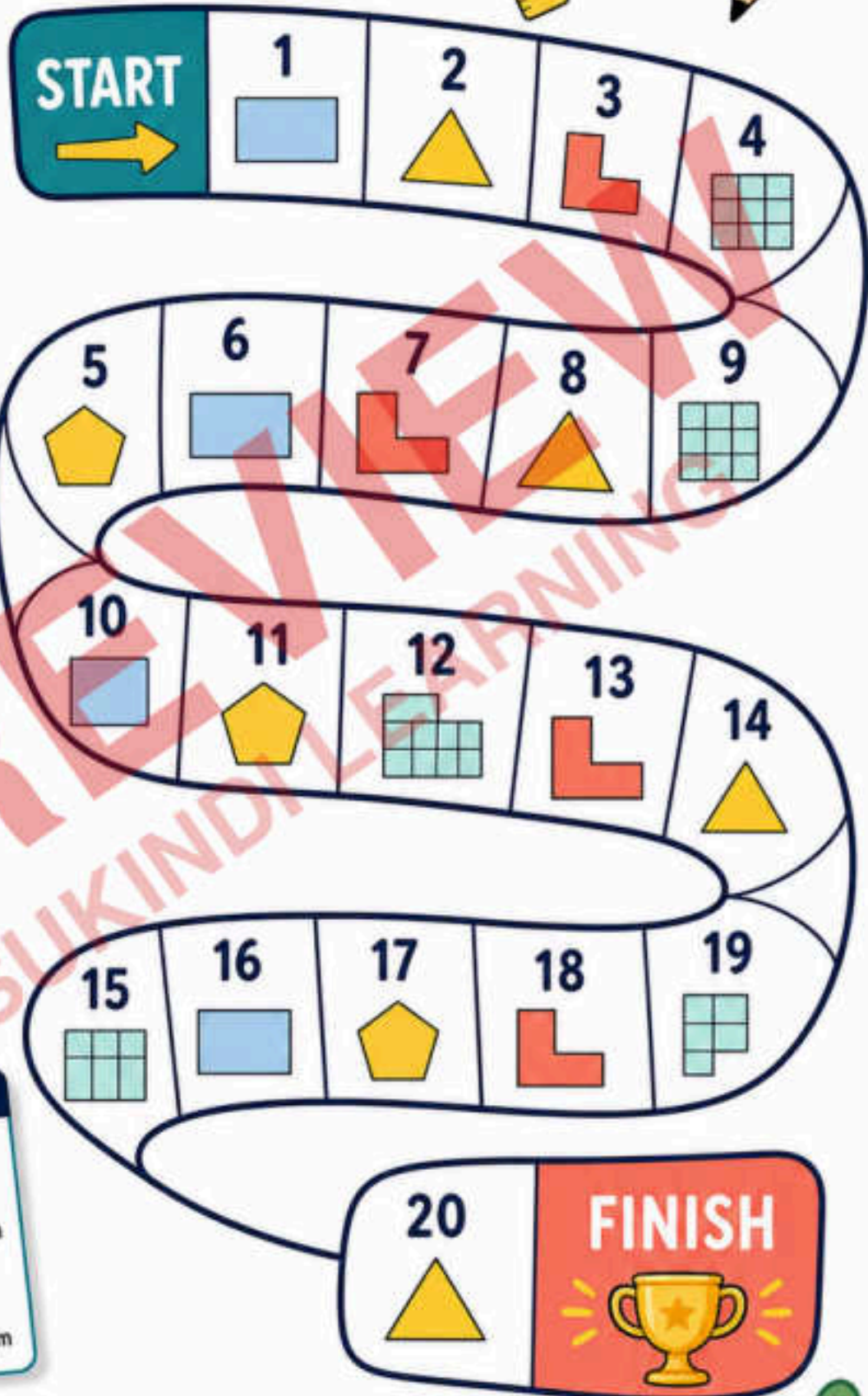
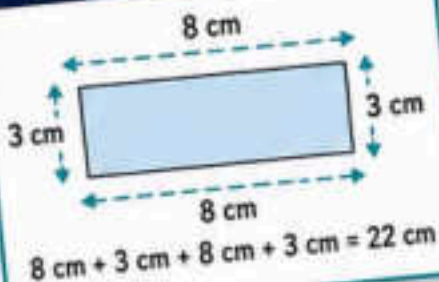


Polygon =
add every side



Compound shape =
find the missing
side first

Perimeter Card Example



DESIGN A SCHOOL GARDEN

Name: _____

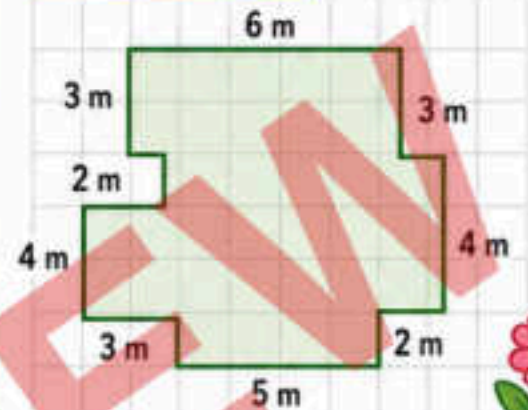


Task: Create a garden plan with a total perimeter between 38 m and 54 m.

Rules:

- Each grid square is 1 m by 1 m.
- Your garden must have at least 8 straight sides.
- Label the length of each outside edge.
- Show your perimeter addition sentence.

sample only



Perimeter calculation:

___ m + ___ m + ___ m + ___ m + ___ m + ___ m + ___ m + ___ m = ___ m

Reflection: How did you know your perimeter matched the target range?

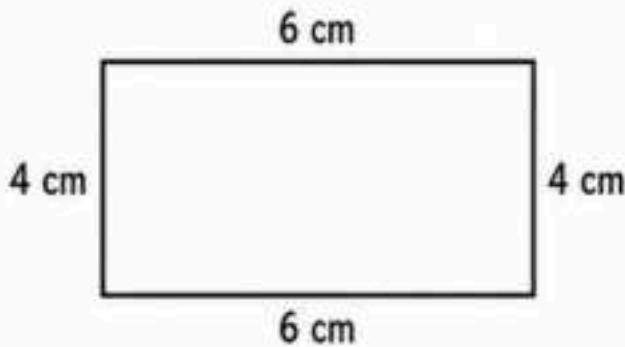


PERIMETER BASICS

Name: _____

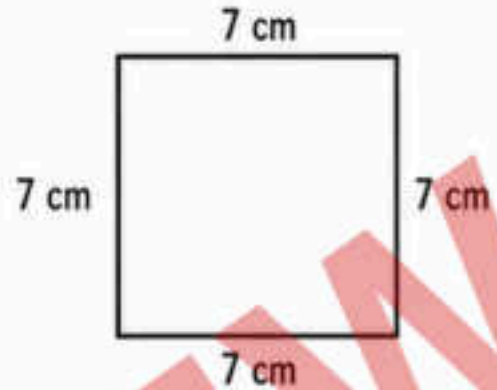
Find the perimeter of each shape. Add every outside side length and include the unit.

1. Rectangle: 6 cm, 4 cm, 6 cm, 4 cm



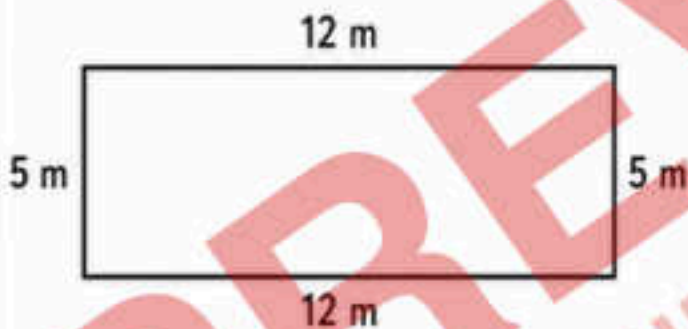
Perimeter = _____ cm

2. Square: each side is 7 cm



Perimeter = _____ cm

3. Rectangle: 12 m, 5 m, 12 m, 5 m



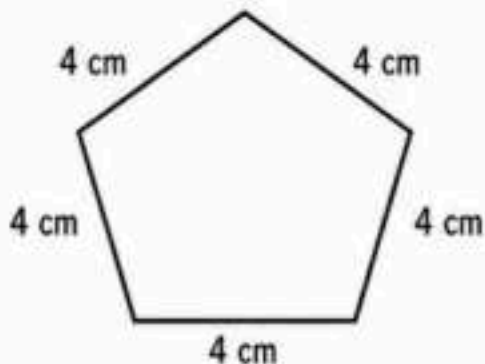
Perimeter = _____ m

4. Triangle: 6 m, 7 m, 8 m



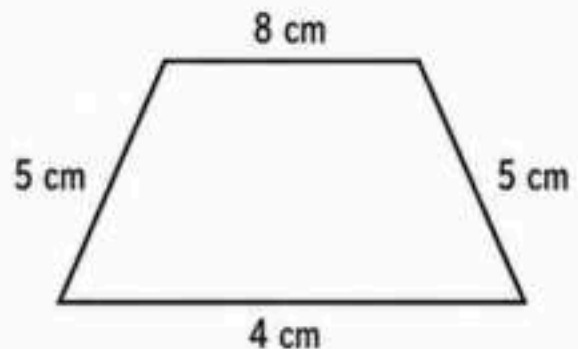
Perimeter = _____ m

5. Pentagon: each side is 4 cm



Perimeter = _____ cm

6. Trapezium: 8 cm, 5 cm, 5 cm, 4 cm



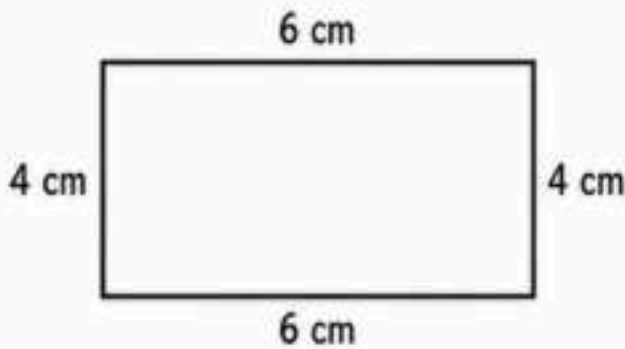
Perimeter = _____ cm

PERIMETER BASICS

Name: **ANSWERS**

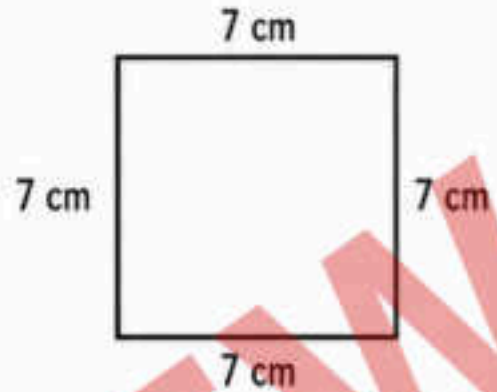
Find the perimeter of each shape. Add every outside side length and include the unit.

1. Rectangle: 6 cm, 4 cm, 6 cm, 4 cm



Perimeter = **20** cm

2. Square: each side is 7 cm



Perimeter = **28** cm

3. Rectangle: 12 m, 5 m, 12 m, 5 m



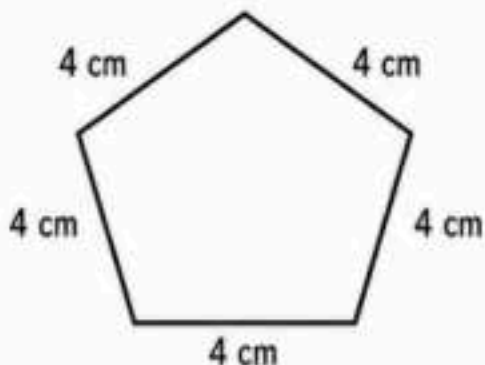
Perimeter = **34** m

4. Triangle: 6 m, 7 m, 8 m



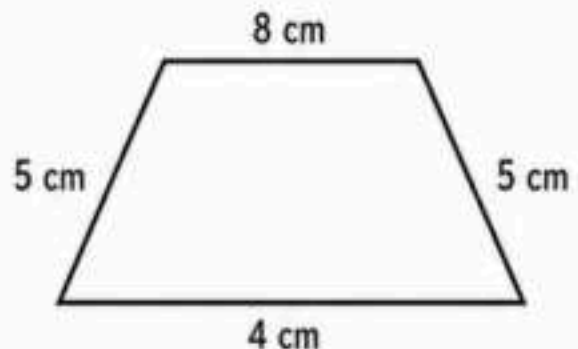
Perimeter = **21** m

5. Pentagon: each side is 4 cm



Perimeter = **20** cm

6. Trapezium: 8 cm, 5 cm, 5 cm, 4 cm



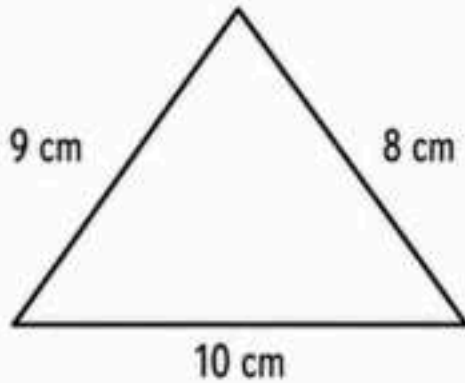
Perimeter = **22** cm

PERIMETER OF POLYGONS

Name: _____

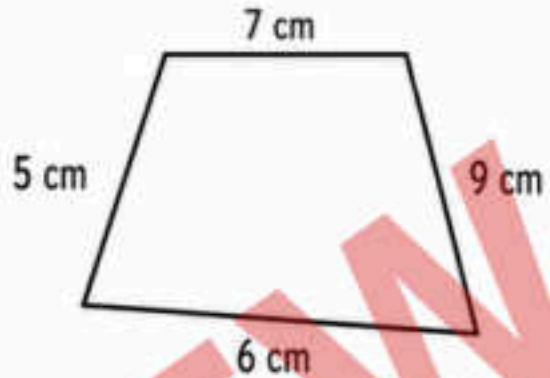
Add every outside side length. Check that each side has been counted once.

1. Triangle: 9 cm, 8 cm, 10 cm



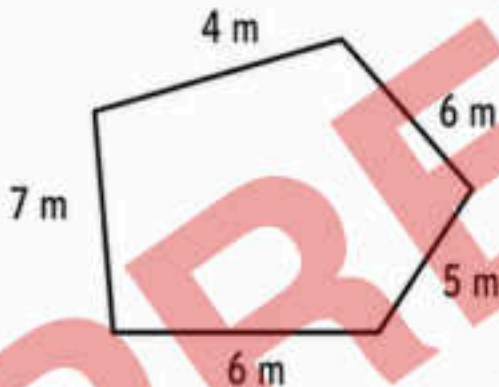
Perimeter = _____ cm

2. Quadrilateral: 7 cm, 5 cm, 9 cm, 6 cm



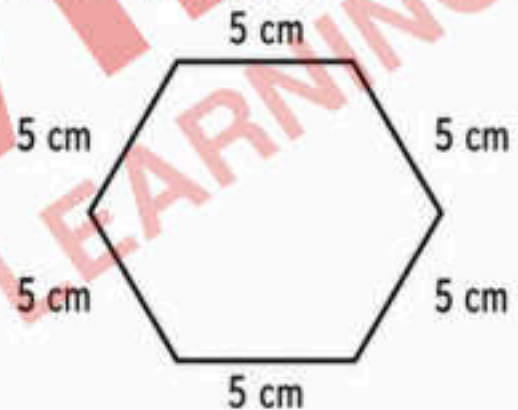
Perimeter = _____ cm

3. Pentagon: 4 m, 6 m, 5 m, 6 m, 7 m



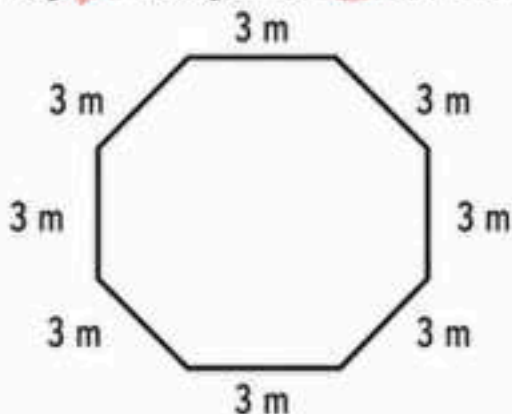
Perimeter = _____ m

4. Regular hexagon: each side is 5 cm



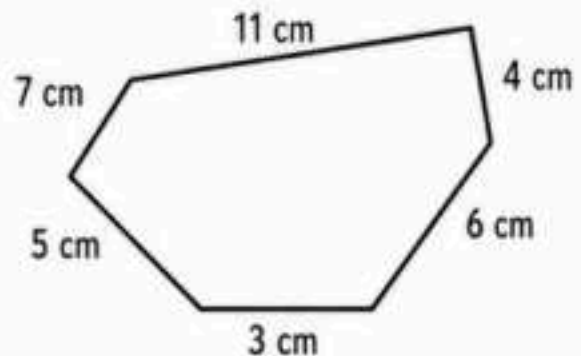
Perimeter = _____ cm

5. Regular octagon: each side is 3 m



Perimeter = _____ m

6. Irregular polygon: 11 cm, 4 cm, 6 cm, 3 cm, 5 cm, 7 cm



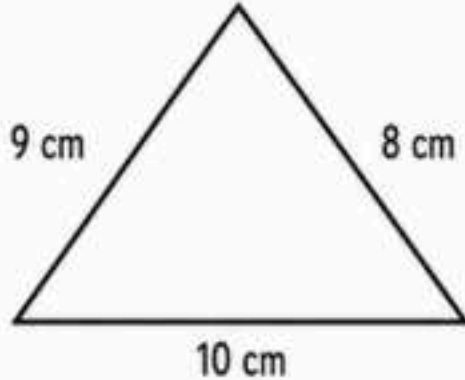
Perimeter = _____ cm

PERIMETER OF POLYGONS

Name: ANSWERS

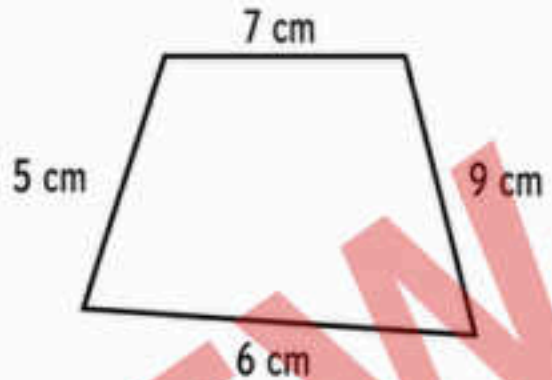
Add every outside side length. Check that each side has been counted once.

1. Triangle: 9 cm, 8 cm, 10 cm



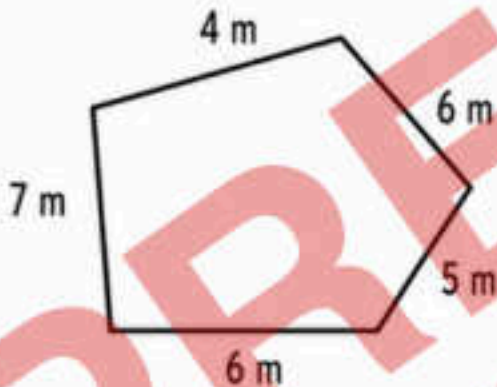
Perimeter = 27 cm

2. Quadrilateral: 7 cm, 5 cm, 9 cm, 6 cm



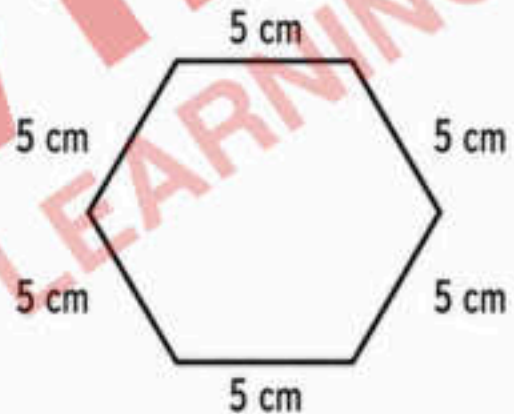
Perimeter = 27 cm

3. Pentagon: 4 m, 6 m, 5 m, 6 m, 7 m



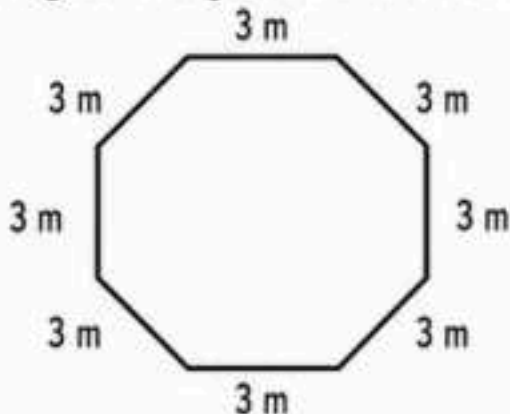
Perimeter = 28 m

4. Regular hexagon: each side is 5 cm



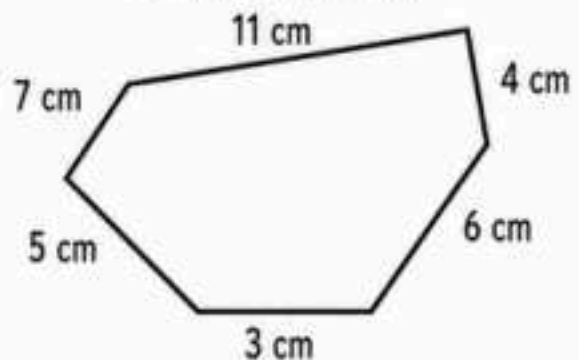
Perimeter = 30 cm

5. Regular octagon: each side is 3 m



Perimeter = 24 m

6. Irregular polygon: 11 cm, 4 cm, 6 cm, 3 cm, 5 cm, 7 cm



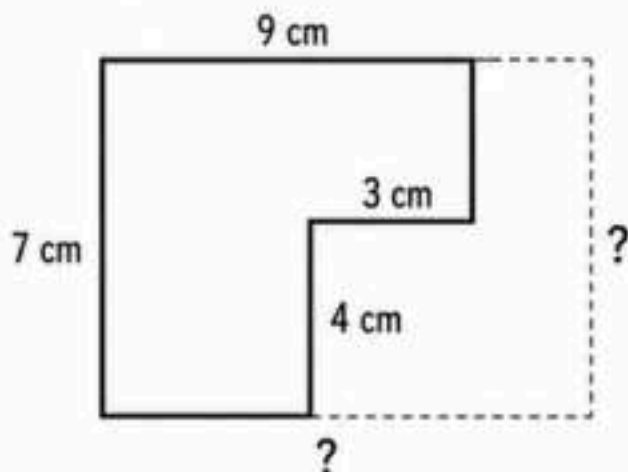
Perimeter = 36 cm

COMPOUND SHAPE PERIMETERS

Name: _____

Work out the missing side lengths first. Then add every outside edge.

1. Known sides: top 9 cm, step 3 cm, inner side 4 cm, left side 7 cm.

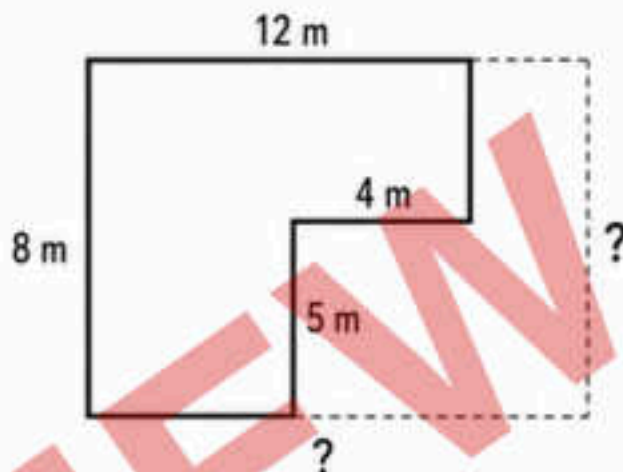


Missing bottom = _____ cm

Missing right side = _____ cm

Perimeter = _____ cm

2. Known sides: top 12 m, step 4 m, inner side 5 m, left side 8 m.

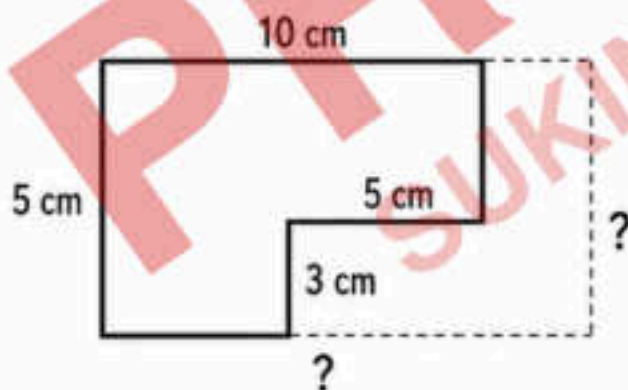


Missing bottom = _____ m

Missing right side = _____ m

Perimeter = _____ m

3. Known sides: top 10 cm, step 5 cm, inner side 3 cm, left side 5 cm.

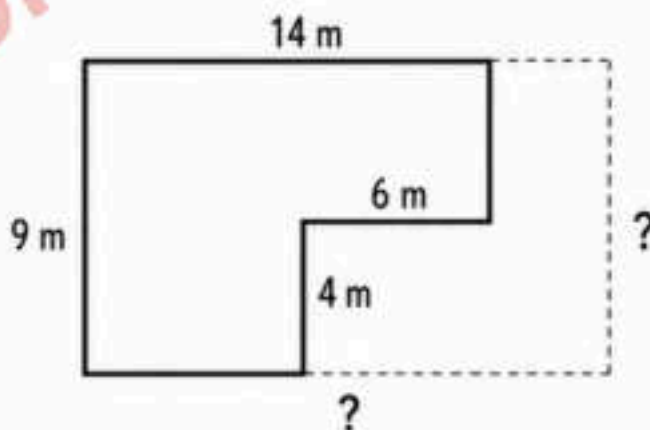


Missing bottom = _____ cm

Missing right side = _____ cm

Perimeter = _____ cm

4. Known sides: top 14 m, step 6 m, inner side 4 m, left side 9 m.



Missing bottom = _____ m

Missing right side = _____ m

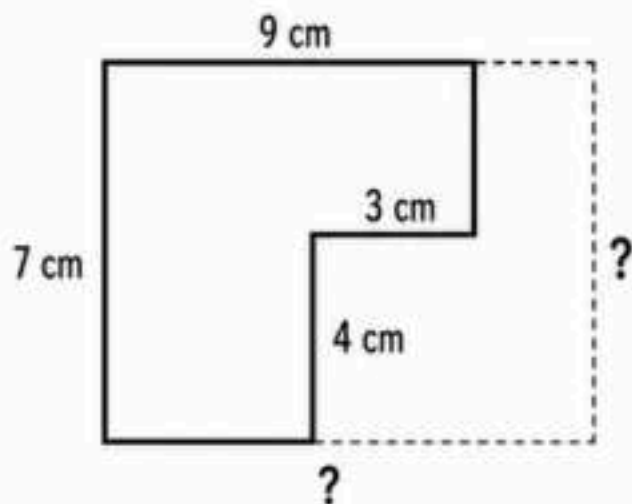
Perimeter = _____ m

COMPOUND SHAPE PERIMETERS

Name: **ANSWERS**

Work out the missing side lengths first. Then add every outside edge.

1. Known sides: top 9 cm, step 3 cm, inner side 4 cm, left side 7 cm.

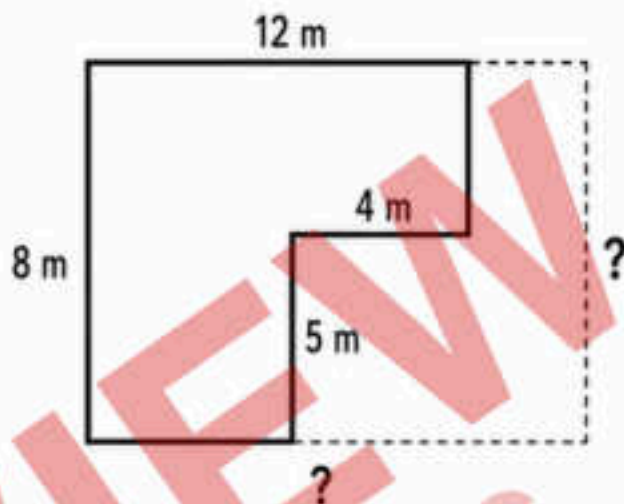


Missing bottom = **6** cm

Missing right side = **3** cm

Perimeter = **32** cm

2. Known sides: top 12 m, step 4 m, inner side 5 m, left side 8 m.

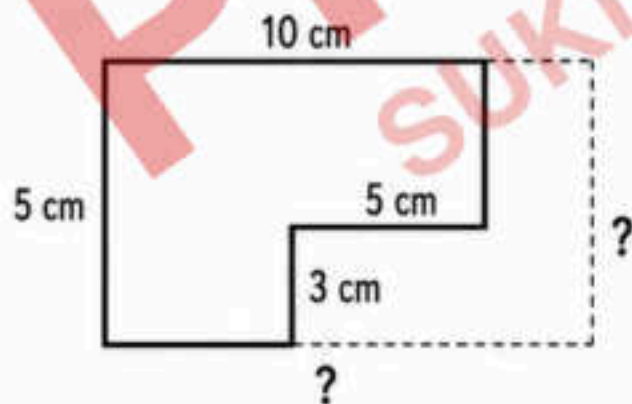


Missing bottom = **8** m

Missing right side = **3** m

Perimeter = **40** m

3. Known sides: top 10 cm, step 5 cm, inner side 3 cm, left side 5 cm.

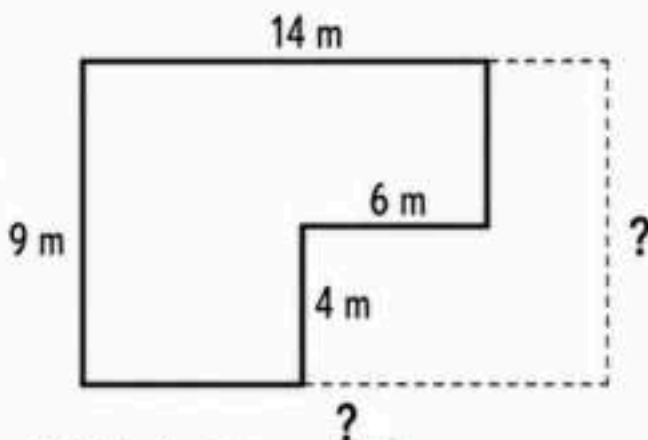


Missing bottom = **5** cm

Missing right side = **2** cm

Perimeter = **30** cm

4. Known sides: top 14 m, step 6 m, inner side 4 m, left side 9 m.



Missing bottom = **8** m

Missing right side = **5** m

Perimeter = **46** m

REAL-WORLD PERIMETER PROBLEMS

Name: _____

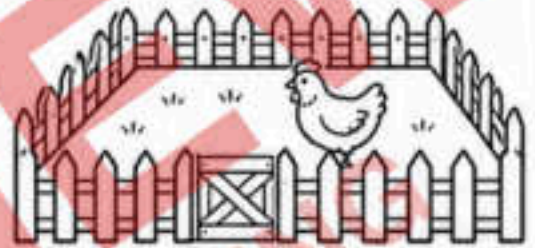
Read each problem. Draw or underline the important side lengths, then find the perimeter.

1. A poster is 45 cm long and 30 cm wide. How much ribbon is needed to go once around the poster?



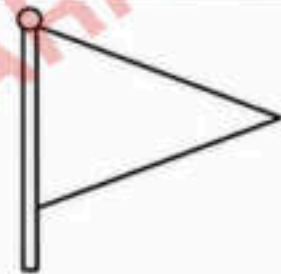
Working: _____ Answer: _____

2. A rectangular chicken run is 12 m long and 8 m wide. How many metres of fencing are needed?



Working: _____ Answer: _____

3. A triangular flag has side lengths of 35 cm, 35 cm and 40 cm. What is the perimeter of the flag?



Working: _____ Answer: _____

4. A school play area has outside edge lengths of 18 m, 6 m, 10 m, 4 m, 8 m and 10 m. What is the total perimeter?



Working: _____ Answer: _____

5. A book cover is 28 cm tall and 21 cm wide. What is the distance around the outside edge?



Working: _____ Answer: _____

REAL-WORLD PERIMETER PROBLEMS

Name: **ANSWERS**

Read each problem. Draw or underline the important side lengths, then find the perimeter.

1. A poster is 45 cm long and 30 cm wide. How much ribbon is needed to go once around the poster?



Working: $45 + 30 + 45 + 30$

Answer: 150 cm

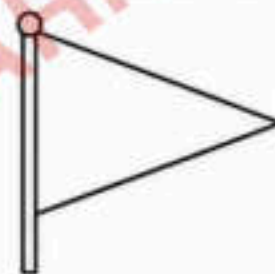
2. A rectangular chicken run is 12 m long and 8 m wide. How many metres of fencing are needed?



Working: $12 + 8 + 12 + 8$

Answer: 40 m

3. A triangular flag has side lengths of 35 cm, 35 cm and 40 cm. What is the perimeter of the flag?



Working: $35 + 35 + 40$

Answer: 110 cm

4. A school play area has outside edge lengths of 18 m, 6 m, 10 m, 4 m, 8 m and 10 m. What is the total perimeter?



Working: $18 + 6 + 10 + 4 + 8 + 10$

Answer: 56 m

5. A book cover is 28 cm tall and 21 cm wide. What is the distance around the outside edge?



Working: $28 + 21 + 28 + 21$

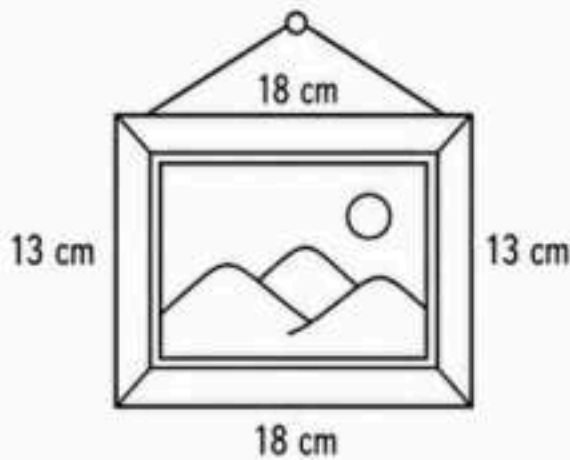
Answer: 98 cm

PERIMETER AROUND US

Name: _____

Find the distance around each everyday object. Add the outside side lengths.

1. Picture frame: 18 cm by 13 cm



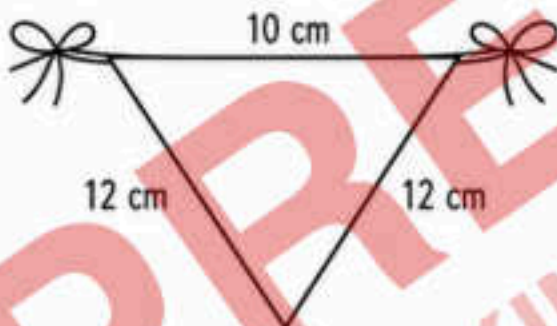
Perimeter = _____ cm

2. Phone case: 15 cm by 7 cm



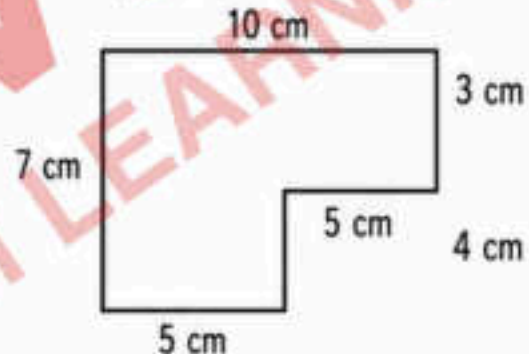
Perimeter = _____ cm

3. Triangular bunting flag: 12 cm, 12 cm, 10 cm



Perimeter = _____ cm

4. L-shaped floor tile: 10 cm, 3 cm, 5 cm, 4 cm, 5 cm, 7 cm



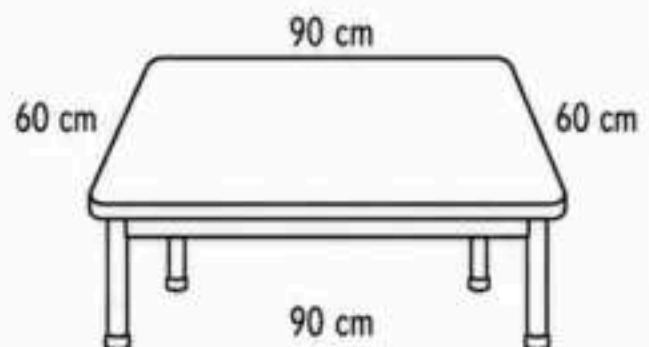
Perimeter = _____ cm

5. Hexagonal sign: each side is 6 cm



Perimeter = _____ cm

6. Classroom table: 90 cm by 60 cm



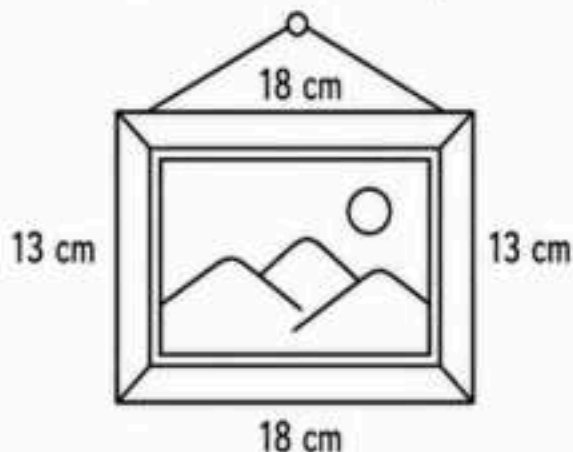
Perimeter = _____ cm

PERIMETER AROUND US

Name: **ANSWERS**

Find the distance around each everyday object. Add the outside side lengths.

1. Picture frame: 18 cm by 13 cm



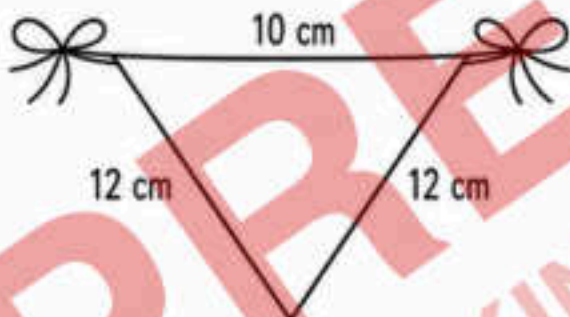
Perimeter = **62** cm

2. Phone case: 15 cm by 7 cm



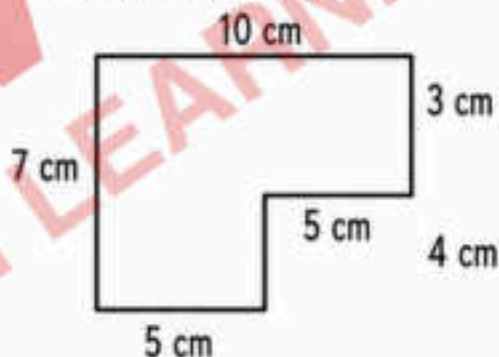
Perimeter = **44** cm

3. Triangular bunting flag: 12 cm, 12 cm, 10 cm



Perimeter = **34** cm

4. L-shaped floor tile: 10 cm, 3 cm, 5 cm, 4 cm, 5 cm, 7 cm



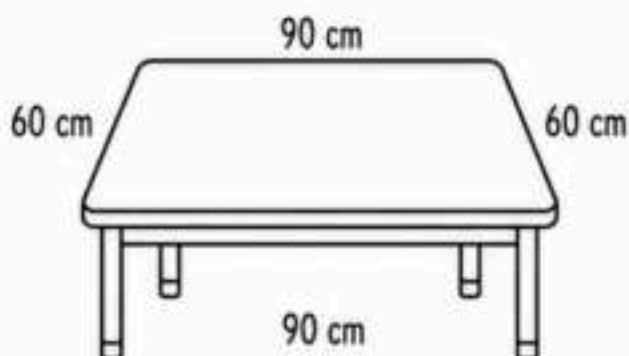
Perimeter = **34** cm

5. Hexagonal sign: each side is 6 cm



Perimeter = **36** cm

6. Classroom table: 90 cm by 60 cm



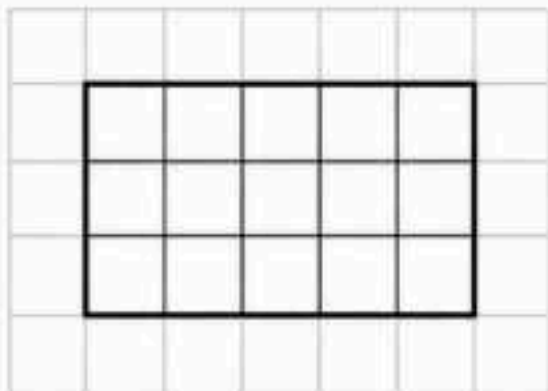
Perimeter = **300** cm

GRID PERIMETER CHALLENGE

Name: _____

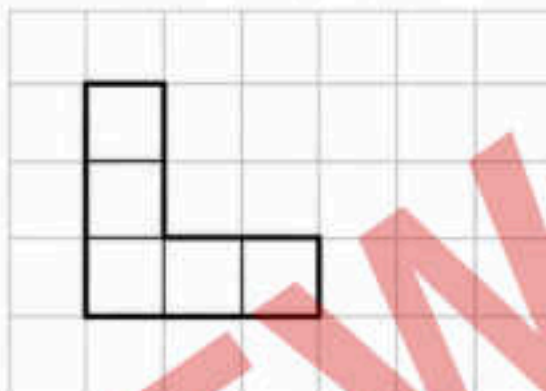
Add the listed outside edge lengths for each grid shape.

1. Shape 1: $5\text{ cm} + 3\text{ cm} + 5\text{ cm} + 3\text{ cm}$



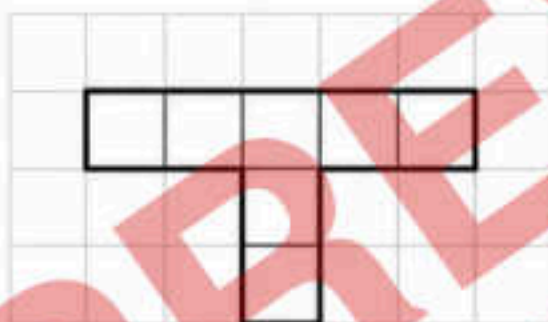
= _____ cm

2. Shape 2: $4\text{ cm} + 2\text{ cm} + 2\text{ cm} + 2\text{ cm} + 2\text{ cm} + 4\text{ cm}$



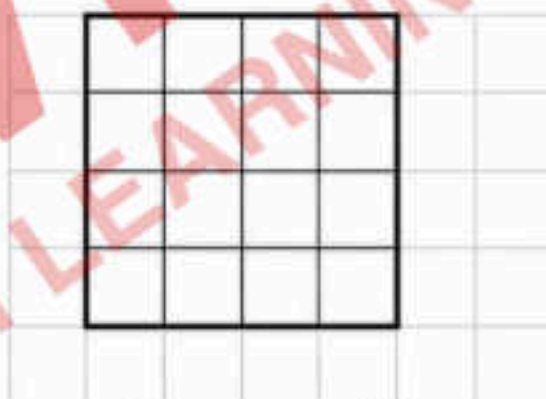
= _____ cm

3. Shape 3: $4\text{ cm} + 1\text{ cm} + 1\text{ cm} + 2\text{ cm} + 1\text{ cm} + 1\text{ cm} + 4\text{ cm} + 2\text{ cm}$



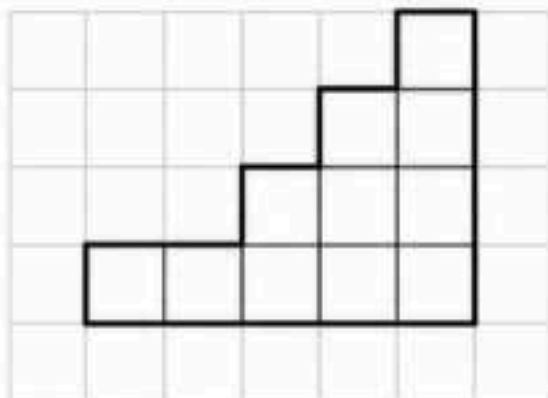
= _____ cm

4. Shape 4: $5\text{ cm} + 5\text{ cm} + 5\text{ cm} + 5\text{ cm}$



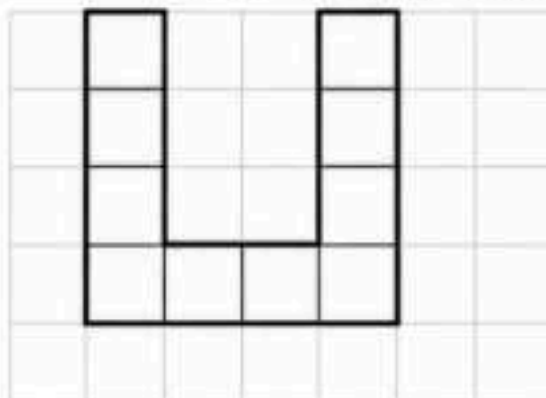
= _____ cm

5. Shape 5: $5\text{ cm} + 4\text{ cm} + 3\text{ cm} + 2\text{ cm} + 2\text{ cm} + 3\text{ cm} + 4\text{ cm} + 5\text{ cm}$



= _____ cm

6. Shape 6: $3\text{ cm} + 2\text{ cm} + 3\text{ cm} + 2\text{ cm} + 1\text{ cm} + 1\text{ cm} + 3\text{ cm} + 5\text{ cm}$



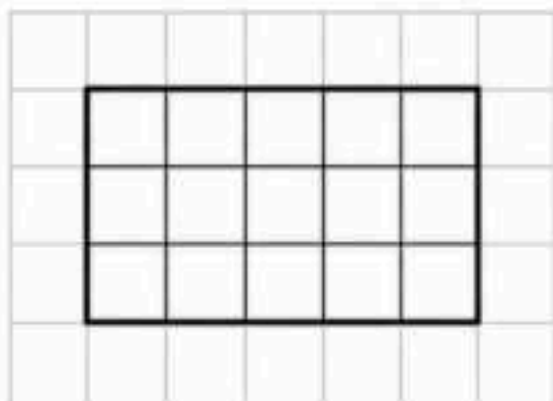
= _____ cm

GRID PERIMETER CHALLENGE

Name: ANSWERS

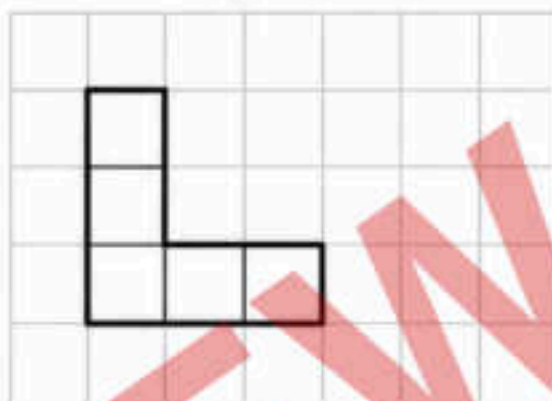
Add the listed outside edge lengths for each grid shape.

1. Shape 1: $5\text{ cm} + 3\text{ cm} + 5\text{ cm} + 3\text{ cm}$



= 16 cm

2. Shape 2: $4\text{ cm} + 2\text{ cm} + 2\text{ cm} + 2\text{ cm} + 2\text{ cm} + 4\text{ cm}$



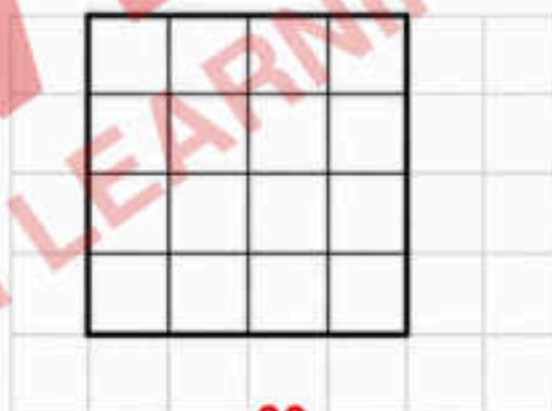
= 16 cm

3. Shape 3: $4\text{ cm} + 1\text{ cm} + 1\text{ cm} + 2\text{ cm} + 1\text{ cm} + 1\text{ cm} + 4\text{ cm} + 2\text{ cm}$



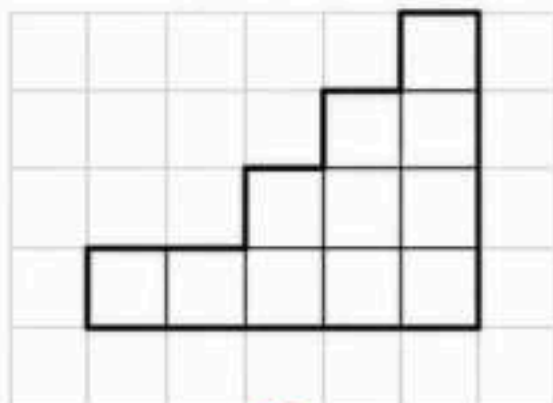
= 16 cm

4. Shape 4: $5\text{ cm} + 5\text{ cm} + 5\text{ cm} + 5\text{ cm}$



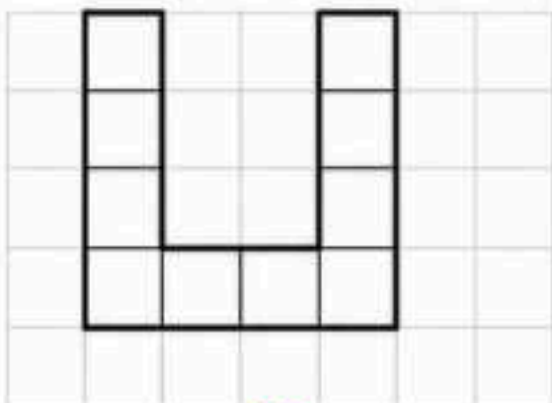
= 20 cm

5. Shape 5: $5\text{ cm} + 4\text{ cm} + 3\text{ cm} + 2\text{ cm} + 2\text{ cm} + 3\text{ cm} + 4\text{ cm} + 5\text{ cm}$



= 28 cm

6. Shape 6: $3\text{ cm} + 2\text{ cm} + 3\text{ cm} + 2\text{ cm} + 1\text{ cm} + 1\text{ cm} + 3\text{ cm} + 5\text{ cm}$



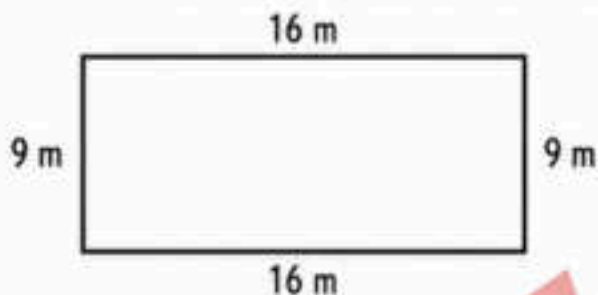
= 20 cm

COMMUNITY GARDEN FENCE PLAN

Name: _____

Show your working. Include the correct unit in every answer.

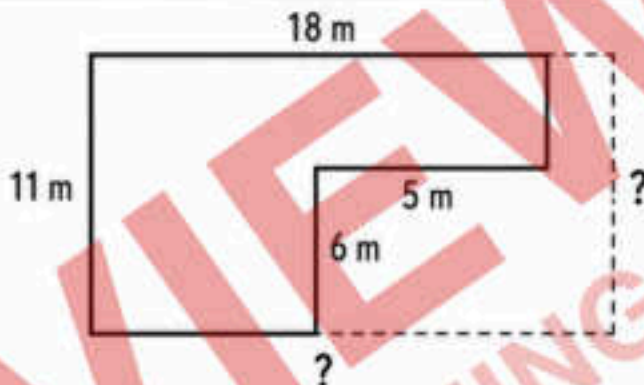
1. The vegetable garden is a rectangle.
It is 16 m long and 9 m wide.
Find the perimeter.



Working: _____

Perimeter: _____

2. The herb garden is an L-shape.
Known sides: top 18 m, step 5 m,
inner side 6 m, left side 11 m.

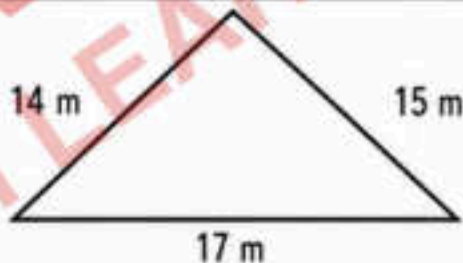


Missing bottom = _____ m

Missing right side = _____ m

Perimeter = _____ m

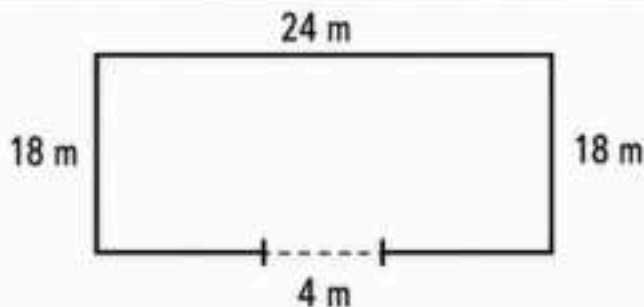
3. A triangular native garden has
side lengths of 14 m, 15 m and
17 m. Find the perimeter.



Working: _____

Perimeter: _____

4. A rectangular play space is 24 m long
and 18 m wide. A 4 m gate opening
does not need fencing.
How many metres of fencing
are needed?



Working: _____

Answer: _____

5. Explain: Why is it important to include the unit when writing a perimeter answer?

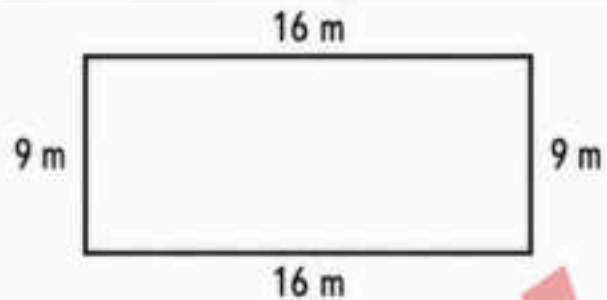
Response: _____

COMMUNITY GARDEN FENCE PLAN

Name: **ANSWERS**

Show your working. Include the correct unit in every answer.

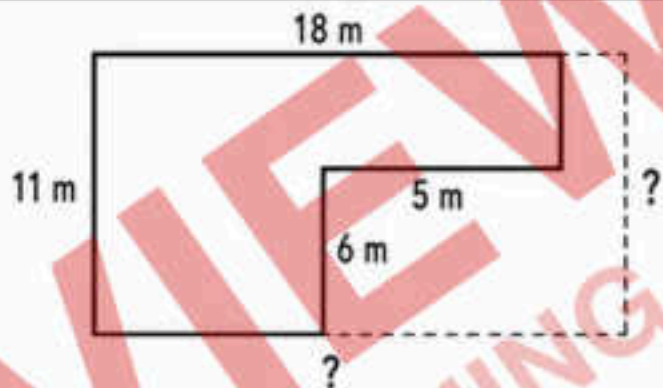
1. The vegetable garden is a rectangle.
It is 16 m long and 9 m wide.
Find the perimeter.



Working: $16 + 9 + 16 + 9$

Perimeter: 50 m

2. The herb garden is an L-shape.
Known sides: top 18 m, step 5 m,
inner side 6 m, left side 11 m.

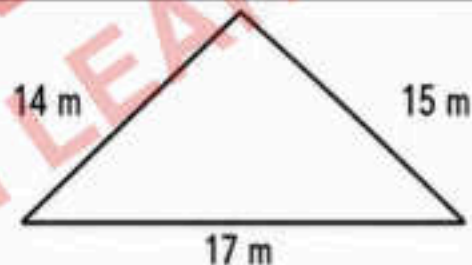


Missing bottom = 13 m

Missing right side = 5 m

Perimeter = 58 m

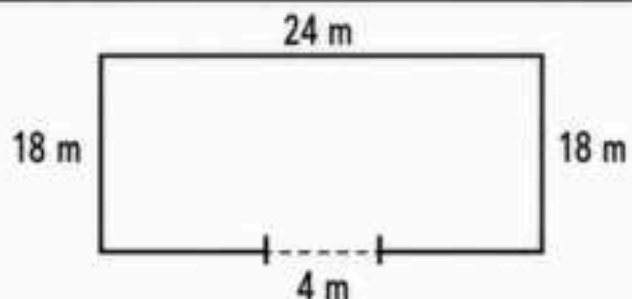
3. A triangular native garden has
side lengths of 14 m, 15 m and
17 m. Find the perimeter.



Working: $14 + 15 + 17$

Perimeter: 46 m

4. A rectangular play space is 24 m long
and 18 m wide. A 4 m gate opening
does not need fencing.
How many metres of fencing
are needed?



Working: $24 + 18 + 24 + 18 - 4$

Answer: 80 m

5. Explain: Why is it important to include the unit when writing a perimeter answer?

Response: Units show what was measured, such as metres or centimetres.

PERIMETER YEAR 5 RUBRIC

Name: _____

Date: _____

Criteria:	BEGINNING	DEVELOPING	ACHIEVING	CONFIDENT	EXCEEDING
1. Understands perimeter as the distance around a shape.	Needs support; counts some sides; units often missing.	Finds simple perimeters; occasional errors; units sometimes included.	Finds simple and compound perimeters accurately; includes units.	Solves varied perimeter problems; checks missing sides and units.	Solves complex tasks efficiently; explains reasoning clearly.
2. Adds side lengths accurately and includes units.	Needs support; counts some sides; units often missing.	Finds simple perimeters; occasional errors; units sometimes included.	Finds simple and compound perimeters accurately; includes units.	Solves varied perimeter problems; checks missing sides and units.	Solves complex tasks efficiently; explains reasoning clearly.
3. Finds missing sides in compound shapes.	Needs support; counts some sides; units often missing.	Finds simple perimeters; occasional errors; units sometimes included.	Finds simple and compound perimeters accurately; includes units.	Solves varied perimeter problems; checks missing sides and units.	Solves complex tasks efficiently; explains reasoning clearly.
4. Applies perimeter to real-world problems.	Needs support; counts some sides; units often missing.	Finds simple perimeters; occasional errors; units sometimes included.	Finds simple and compound perimeters accurately; includes units.	Solves varied perimeter problems; checks missing sides and units.	Solves complex tasks efficiently; explains reasoning clearly.
5. Explains strategies using clear mathematical language.	Needs support; counts some sides; units often missing.	Finds simple perimeters; occasional errors; units sometimes included.	Finds simple and compound perimeters accurately; includes units.	Solves varied perimeter problems; checks missing sides and units.	Solves complex tasks efficiently; explains reasoning clearly.

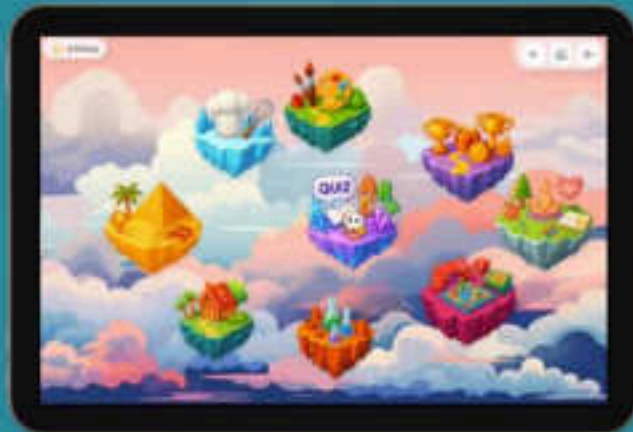
Perimeter

Year 5



Perimeter Quiz





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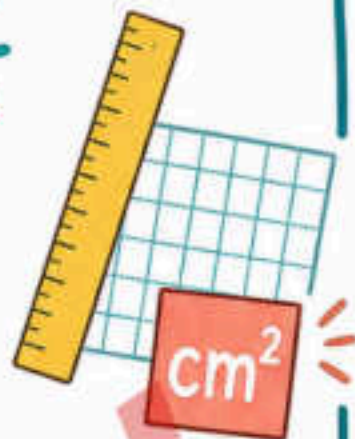


Area - Year 5

Table of Contents	
Presentation: Area - Year 5	
Classroom Display: Area Quick Guide	
Activity: Area Around Us Task Cards	
Activity: Area Around Us Recording Sheet	
Game: Area Bang!	
Worksheet: Area of Rectangles	
Worksheet: Counting Square Units	
Worksheet: Joined Rectangles	
Worksheet: Garden Area Design	
Worksheet: Measuring Area on Grids	
Worksheet: Area and Perimeter Reasoning	
Quiz: Area - Year 5	
Assessment: School Courtyard Area Assessment	
Rubric: Area Year 5 Rubric	



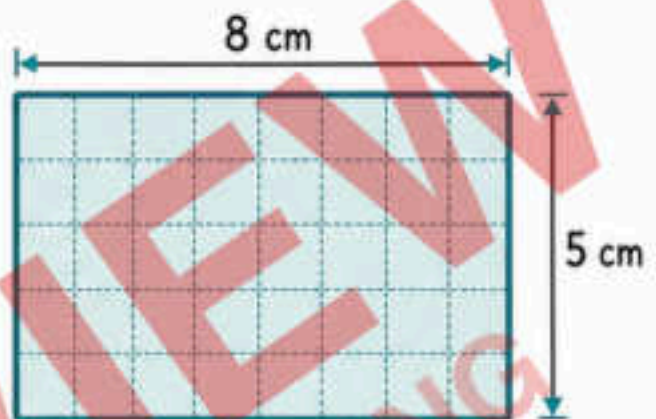
Area Quick Guide



1

Area means space inside

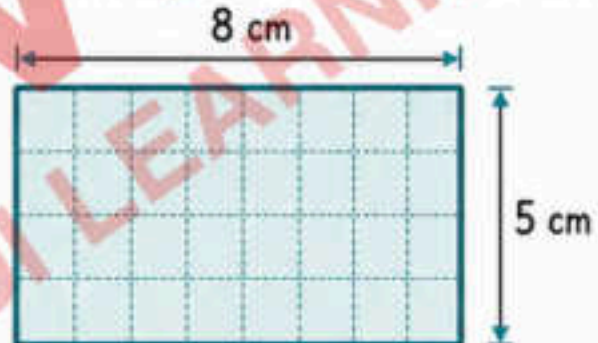
Area measures the surface a shape covers. It is written in square units, such as cm^2 or m^2 .



2

Rectangles

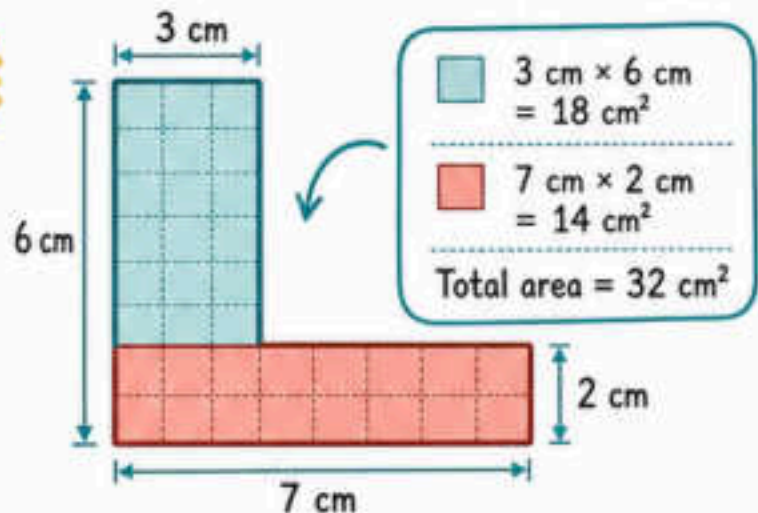
Area = length $\times$ width
 $8 \text{ cm} \times 5 \text{ cm} = 40 \text{ cm}^2$



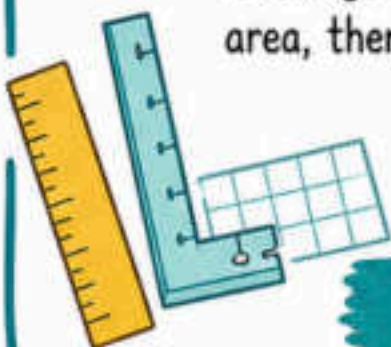
3

Irregular shapes

Split the shape into rectangles, find each area, then add the parts.



Estimate first. Check your units.



Area Around Us Task Cards 1

1

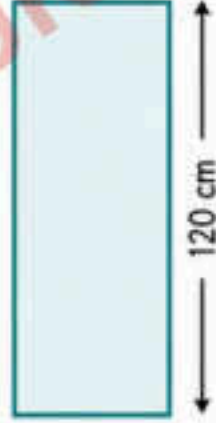
Desk Top



Length 120 cm.

Width 60 cm.

Find the area.



2

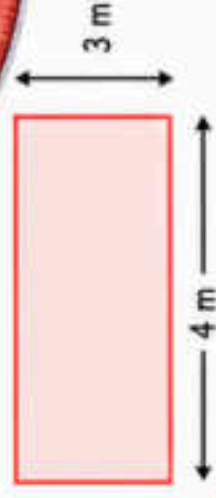
Reading Rug



Length 4 m.

Width 3 m.

Find the area.



3

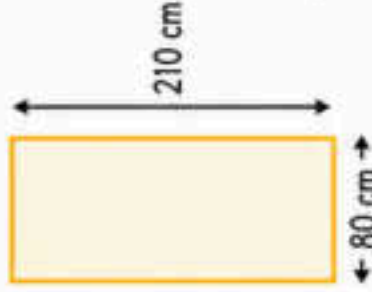
Class Door



Height 210 cm.

Width 80 cm.

Find the area.



4

Whiteboard



Length 240 cm.

Width 120 cm.

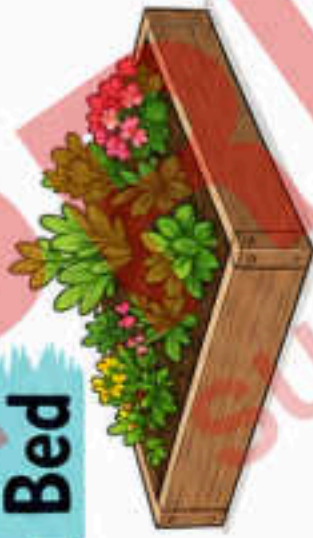
Find the area.



Area Around Us Task Cards 2

1

Garden Bed



Length 6 m.

Width 2 m.

Find the area.



2

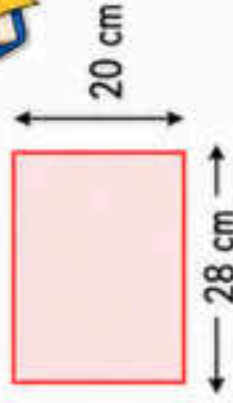
Book Cover



Length 28 cm.

Width 20 cm.

Find the area.



3

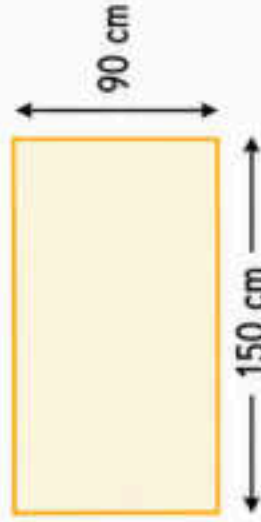
Floor Mat



Length 150 cm.

Width 90 cm.

Find the area.



4

Display Board



Length 3 m.

Width 2 m.

Find the area.



≡ Area Around Us Recording Sheet ≡

Name: _____

Date: _____

Card	Object	Length	Width	Number sentence	Area	Unit check
1						☐
2						☐
3						☐
4						☐
5						☐
6						☐
7						☐
8						☐



Remember

Area = length x width.

Use square units, such as cm^2 or m^2 .

Area Bang!

A rectangle-area fluency game



Objective:

Match rectangle dimensions to the correct area.



Materials:

Area cards, answer cards and Bang! cards



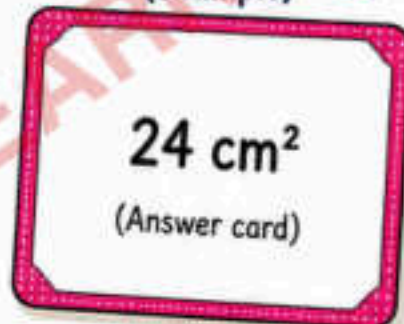
Setup:

Shuffle the cards.
Place them face down in a pile.

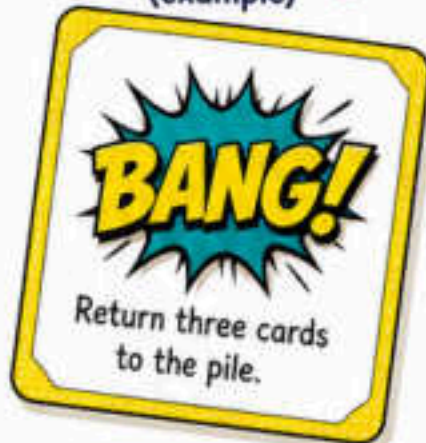
Dimension Card (example)



Answer Card (example)



Bang! Card (example)



How to play:

1. Take turns drawing one card.
2. If it shows dimensions, say the area with the correct square unit.
3. If it shows an area, name possible rectangle dimensions.
4. If you draw Bang!, return three cards to the pile.
5. The player with the most cards at the end wins.



★ Area Bang! Cards 1 ★



★ Area Bang! Cards 2 ★



Area of Rectangles

Name: _____

Date: _____

Find the area of each rectangle. Write the number sentence and the answer with square units.

Example:

8 cm



5 cm

$$8 \text{ cm} \times 5 \text{ cm} = 40 \text{ cm}^2$$

1. 7 cm by 4 cm

7 cm



4 cm

Number sentence: _____

Answer: _____

2. 9 cm by 6 cm

9 cm



6 cm

Number sentence: _____

Answer: _____

3. 12 cm by 5 cm

12 cm



5 cm

Number sentence: _____

Answer: _____

4. 15 cm by 3 cm

15 cm



3 cm

Number sentence: _____

Answer: _____

5. 10 m by 8 m

10 m



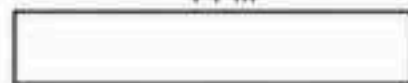
8 m

Number sentence: _____

Answer: _____

6. 14 m by 4 m

14 m



4 m

Number sentence: _____

Answer: _____

7. 18 cm by 6 cm

18 cm



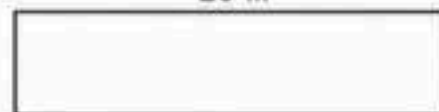
6 cm

Number sentence: _____

Answer: _____

8. 20 m by 7 m

20 m



7 m

Number sentence: _____

Answer: _____

★ Check: Did you use square units?



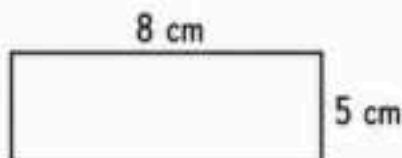
Area of Rectangles

Name: **ANSWERS**

Date: _____

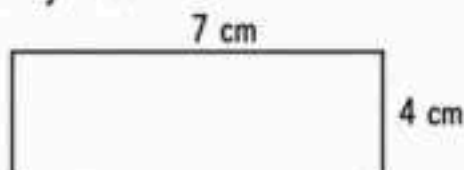
Find the area of each rectangle. Write the number sentence and the answer with square units.

Example:



$$8 \text{ cm} \times 5 \text{ cm} = 40 \text{ cm}^2$$

1. 7 cm by 4 cm



Number sentence: $7 \times 4 = 28 \text{ cm}^2$

Answer: 28 cm^2

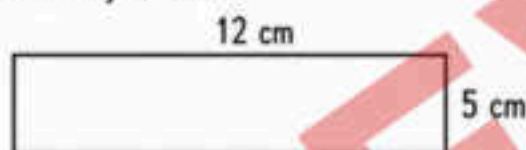
2. 9 cm by 6 cm



Number sentence: $9 \times 6 = 54 \text{ cm}^2$

Answer: 54 cm^2

3. 12 cm by 5 cm



Number sentence: $12 \times 5 = 60 \text{ cm}^2$

Answer: 60 cm^2

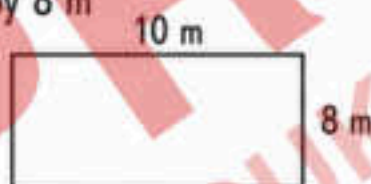
4. 15 cm by 3 cm



Number sentence: $15 \times 3 = 45 \text{ cm}^2$

Answer: 45 cm^2

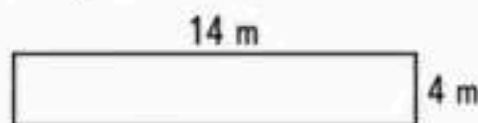
5. 10 m by 8 m



Number sentence: $10 \times 8 = 80 \text{ m}^2$

Answer: 80 m^2

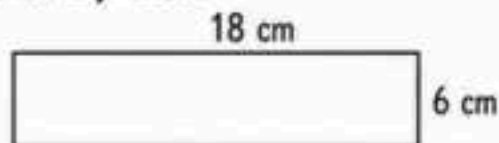
6. 14 m by 4 m



Number sentence: $14 \times 4 = 56 \text{ m}^2$

Answer: 56 m^2

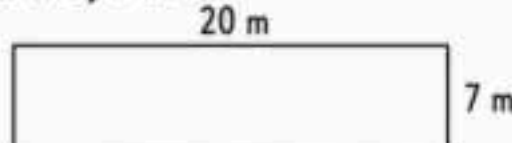
7. 18 cm by 6 cm



Number sentence: $18 \times 6 = 108 \text{ cm}^2$

Answer: 108 cm^2

8. 20 m by 7 m



Number sentence: $20 \times 7 = 140 \text{ m}^2$

Answer: 140 m^2

★ Check: Did you use square units?



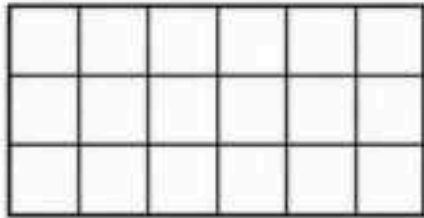
Counting Square Units

Name: _____

Date: _____

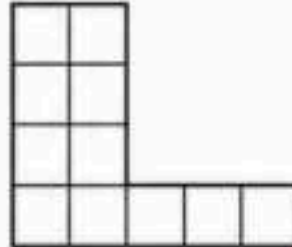
Count the unit squares inside each shape. Write the area in square units.

1.



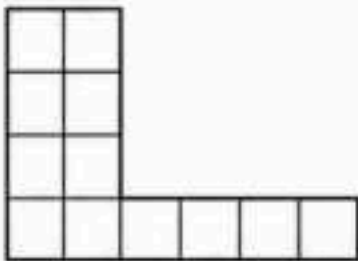
Area = _____ square units

2.



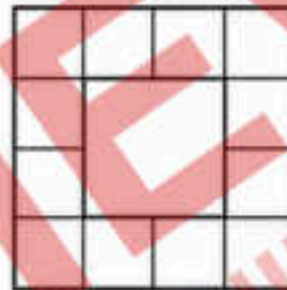
Area = _____ square units

3.



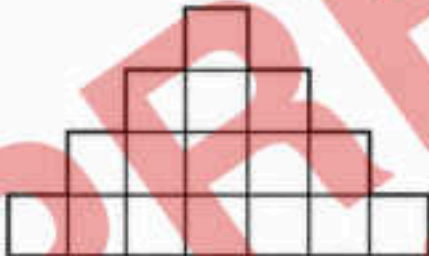
Area = _____ square units

4.



Area = _____ square units

5.



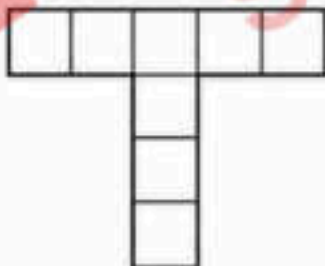
Area = _____ square units

6.



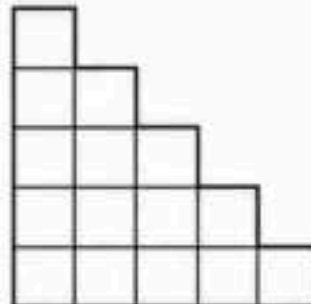
Area = _____ square units

7.



Area = _____ square units

8.



Area = _____ square units

Challenge: Circle two shapes with the same area.

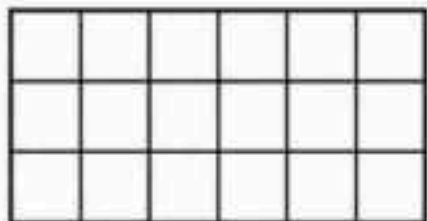
Counting Square Units

Name: ANSWERS

Date: _____

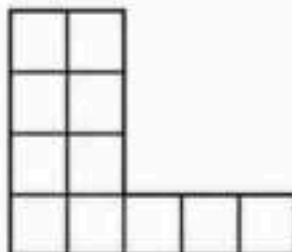
Count the unit squares inside each shape. Write the area in square units.

1.



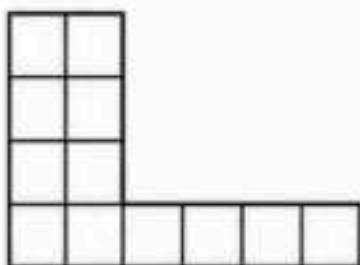
Area = 18 square units

2.



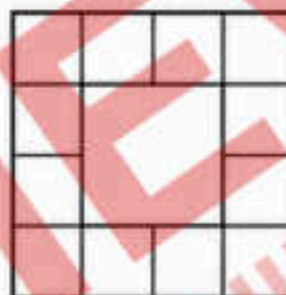
Area = 11 square units

3.



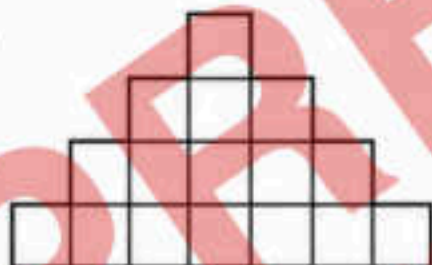
Area = 12 square units

4.



Area = 12 square units

5.



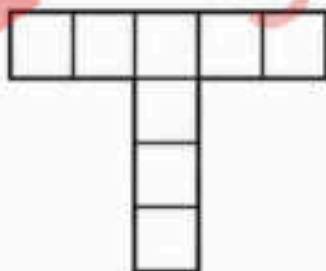
Area = 16 square units

6.



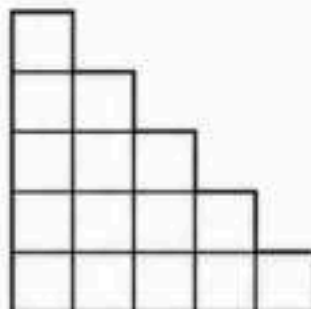
Area = 28 square units

7.



Area = 8 square units

8.



Area = 15 square units

Challenge: Circle two shapes with the same area.

(Example pair: 3 and 4)



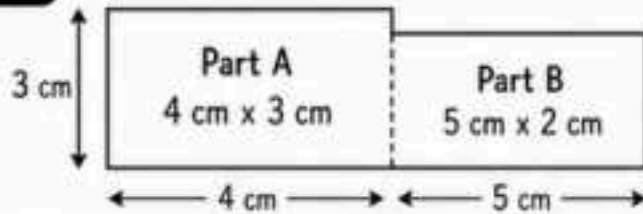
Joined Rectangles

Name: _____

Date: _____

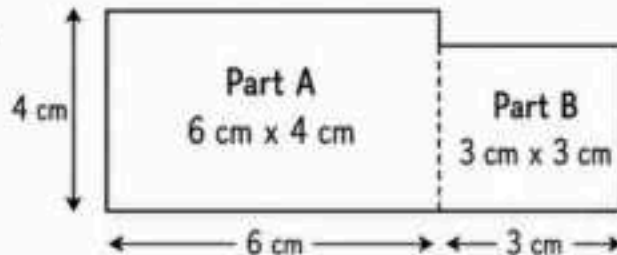
Find the area of Part A and Part B. Add the parts to find the total area.

Example:



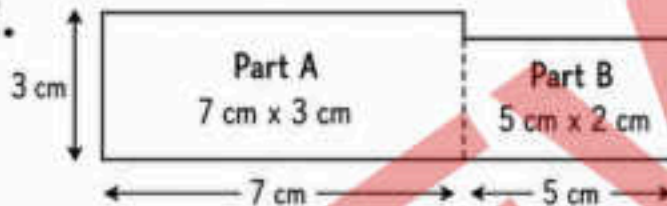
Example: Part A 4 cm x 3 cm = 12 cm².
Part B 5 cm x 2 cm = 10 cm².
Total area = 22 cm².

1.



Part A = _____
Part B = _____
Total area = _____

2.



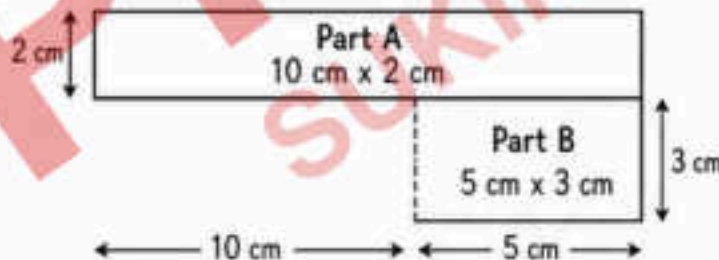
Part A = _____
Part B = _____
Total area = _____

3.



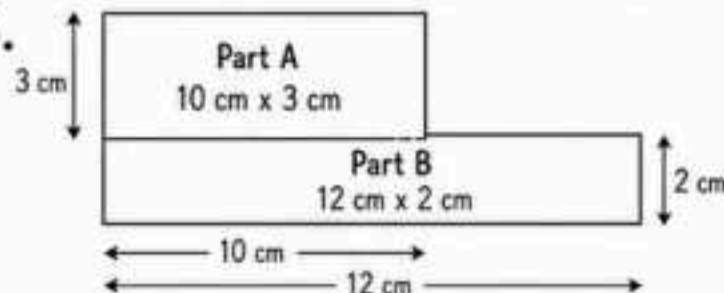
Part A = _____
Part B = _____
Total area = _____

4.



Part A = _____
Part B = _____
Total area = _____

5.



Part A = _____
Part B = _____
Total area = _____

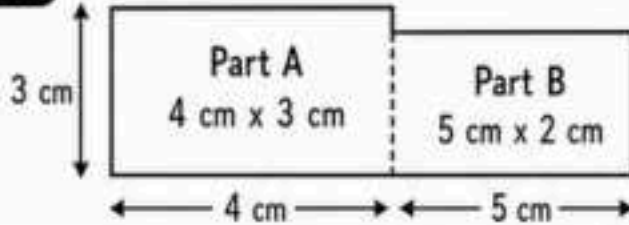
Joined Rectangles

Name: **ANSWERS**

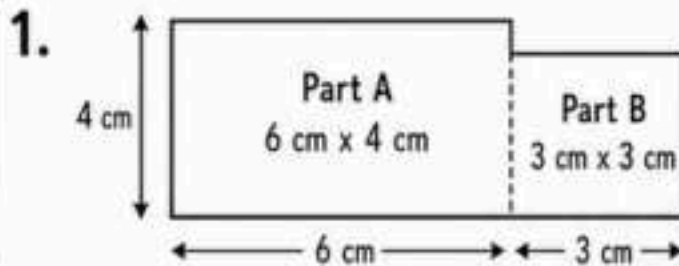
Date: _____

Find the area of Part A and Part B. Add the parts to find the total area.

Example:



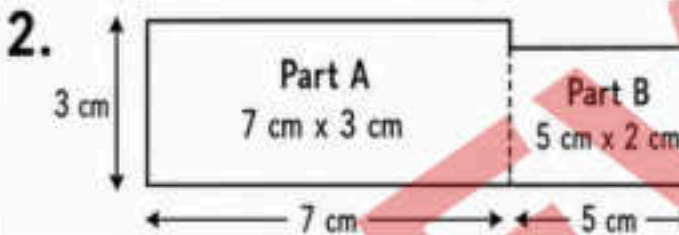
Example: Part A 4 cm x 3 cm = 12 cm².
Part B 5 cm x 2 cm = 10 cm².
Total area = 22 cm².



Part A = **24 cm²**

Part B = **9 cm²**

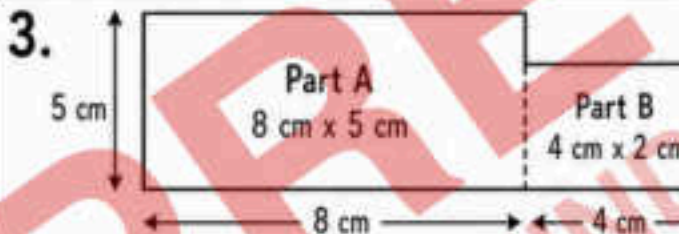
Total area = **33 cm²**



Part A = **21 cm²**

Part B = **10 cm²**

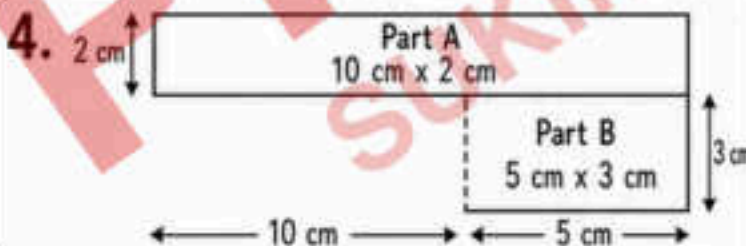
Total area = **31 cm²**



Part A = **40 cm²**

Part B = **8 cm²**

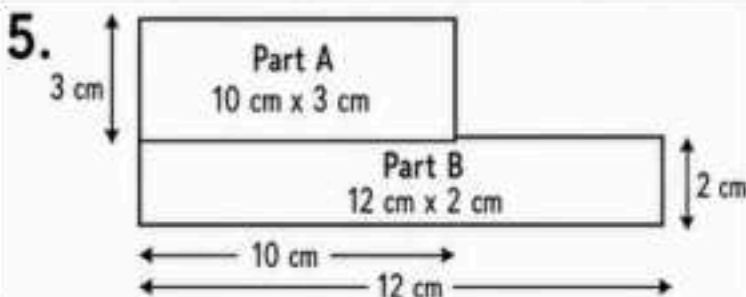
Total area = **48 cm²**



Part A = **20 cm²**

Part B = **15 cm²**

Total area = **35 cm²**



Part A = **30 cm²**

Part B = **24 cm²**

Total area = **54 cm²**



Garden Area Design



Name: _____

Date: _____

Design a school garden on the grid. Each square metre is one grid square.

Grid area for designing the garden. A large grid of 20 squares by 20 squares is provided. A red diagonal watermark reading 'PREVIEW' and 'SUKINDI LEARNING' is overlaid across the grid.

1 square = 1 m²

Your garden must include:

☐

vegetable bed

☐

flower bed

☐

path

☐

quiet sitting area



Garden feature	Length	Width	Area

1. Find the total planted area.

2. Explain how you checked your units.



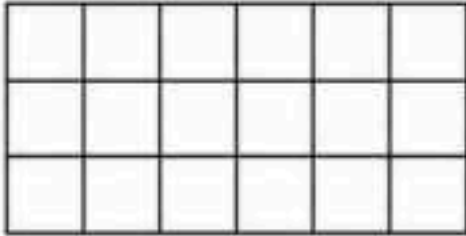
Measuring Area on Grids

Name: _____

Date: _____

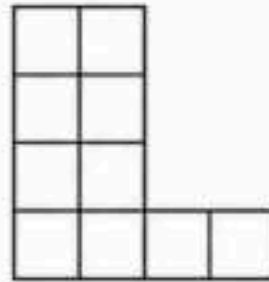
Find the area of each shape. You may count squares or split the shape into rectangles.

1.



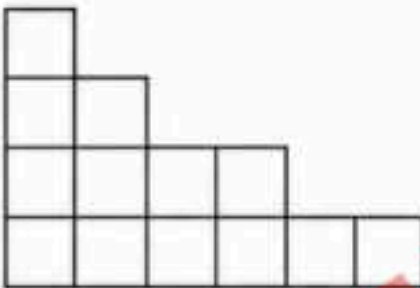
Area = _____ square units

2.



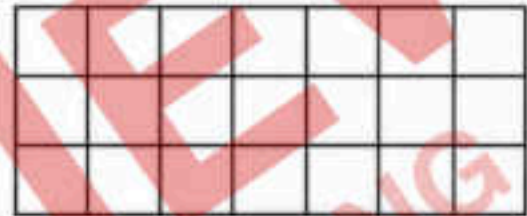
Area = _____ square units

3.



Area = _____ square units

4.



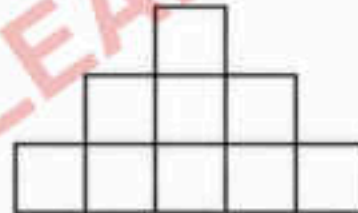
Area = _____ square units

5.



Area = _____ square units

6.



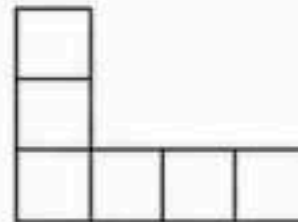
Area = _____ square units

7.



Area = _____ square units

8.



Area = _____ square units

Which strategy was fastest? Why?

Measuring Area on Grids

Name: ANSWERS

Date: _____

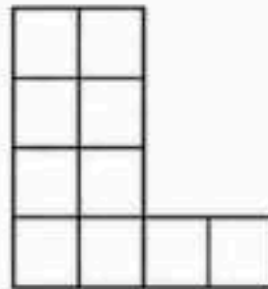
Find the area of each shape. You may count squares or split the shape into rectangles.

1.



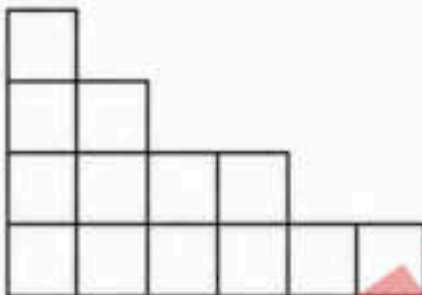
Area = 18 square units

2.



Area = 10 square units

3.



Area = 13 square units

4.



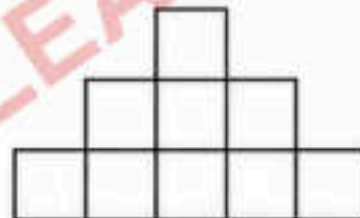
Area = 21 square units

5.



Area = 7 square units

6.



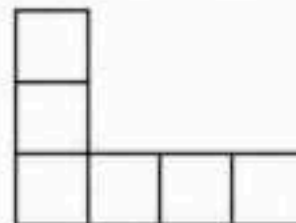
Area = 9 square units

7.



Area = 14 square units

8.



Area = 8 square units

Which strategy was fastest? Why?

Strategies may vary. Counting, rows, or splitting rectangles can work.

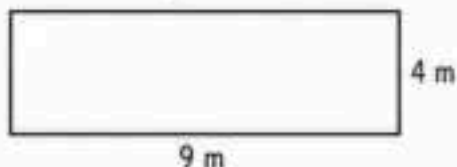
Area and Perimeter Reasoning

Name: _____

Date: _____

Solve each problem. Show your working and include the correct units.

1. A garden bed is 9 m long and 4 m wide.
Find its area and perimeter.



Area = _____

Perimeter = _____

Working:

2. A mat has an area of 48 cm^2 .
One side is 6 cm.
What could the other side be?



Other side could be _____

Working:

3. Draw two rectangles with a perimeter of 24 cm.
Find the area of each rectangle.

Rectangle A



Rectangle B



Area of Rectangle A = _____

Area of Rectangle B = _____

Show your working:

4. Which rectangle has the greater area:
10 m by 3 m or 8 m by 4 m?
Explain.



Greater area: _____

Explain your answer.

5. A path is made from two joined rectangles.
Part A is 5 m by 3 m.
Part B is 4 m by 2 m.
Find the total area.



Total area = _____

Working:

6. Create a rectangle with an area of 36 square units.
Label its dimensions.



Length = _____ units

Width = _____ units

Area = _____ square units

Show your working.



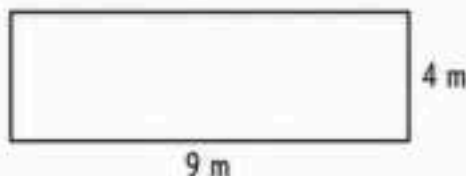
Area and Perimeter Reasoning

Name: **ANSWERS**

Date: _____

Solve each problem. Show your working and include the correct units.

1. A garden bed is 9 m long and 4 m wide.
Find its area and perimeter.



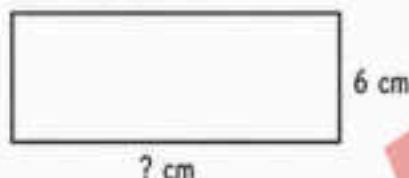
Area = **36 m^2**

Perimeter = **26 m**

Working: **$\text{Area: } 9 \text{ m} \times 4 \text{ m} = 36 \text{ m}^2$**

$\text{Perimeter: } 2 \times (9 \text{ m} + 4 \text{ m}) = 26 \text{ m}$

2. A mat has an area of 48 cm^2 .
One side is 6 cm.
What could the other side be?



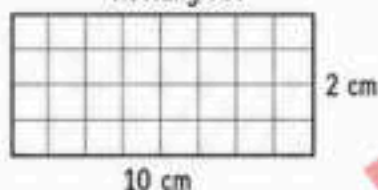
Other side could be **8 cm , because $48 \div 6 = 8$**

Working: _____

$48 \div 6 = 8 \text{ cm}$

3. Draw two rectangles with a perimeter of 24 cm.
Find the area of each rectangle.

Rectangle A

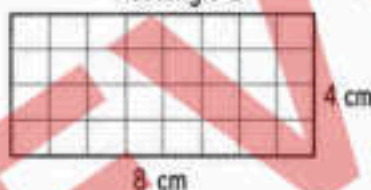


Area of Rectangle A = **20 cm^2**

Show your working.

$\text{Area} = 2 \text{ cm} \times 10 \text{ cm} = 20 \text{ cm}^2$

Rectangle B



Area of Rectangle B = **32 cm^2**

$\text{Area} = 4 \text{ cm} \times 8 \text{ cm} = 32 \text{ cm}^2$

4. Which rectangle has the greater area:
10 m by 3 m or 8 m by 4 m?
Explain.



Greater area: **$8 \text{ m by } 4 \text{ m}$**

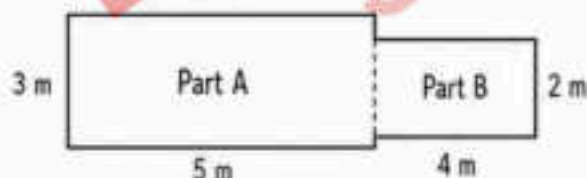
Explain your answer.

$8 \text{ m} \times 4 \text{ m} = 32 \text{ m}^2$

$10 \text{ m} \times 3 \text{ m} = 30 \text{ m}^2$

$32 \text{ m}^2 \text{ is greater than } 30 \text{ m}^2$

5. A path is made from two joined rectangles.
Part A is 5 m by 3 m.
Part B is 4 m by 2 m.
Find the total area.



Total area = **$15 \text{ m}^2 + 8 \text{ m}^2 = 23 \text{ m}^2$**

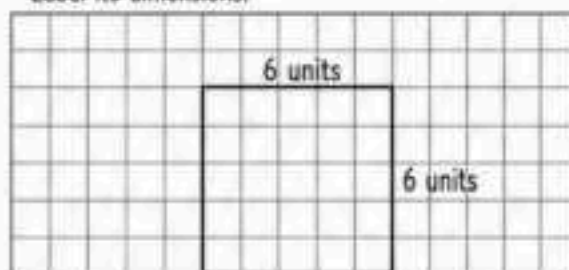
Working:

$\text{Area of Part A} = 5 \text{ m} \times 3 \text{ m} = 15 \text{ m}^2$

$\text{Area of Part B} = 4 \text{ m} \times 2 \text{ m} = 8 \text{ m}^2$

$\text{Total area} = 15 \text{ m}^2 + 8 \text{ m}^2 = 23 \text{ m}^2$

6. Create a rectangle with an area of 36 square units.
Label its dimensions.



Length = **6** units

Width = **6** units

Area = **36** square units

Show your working.

$6 \times 6 = 36 \text{ square units}$

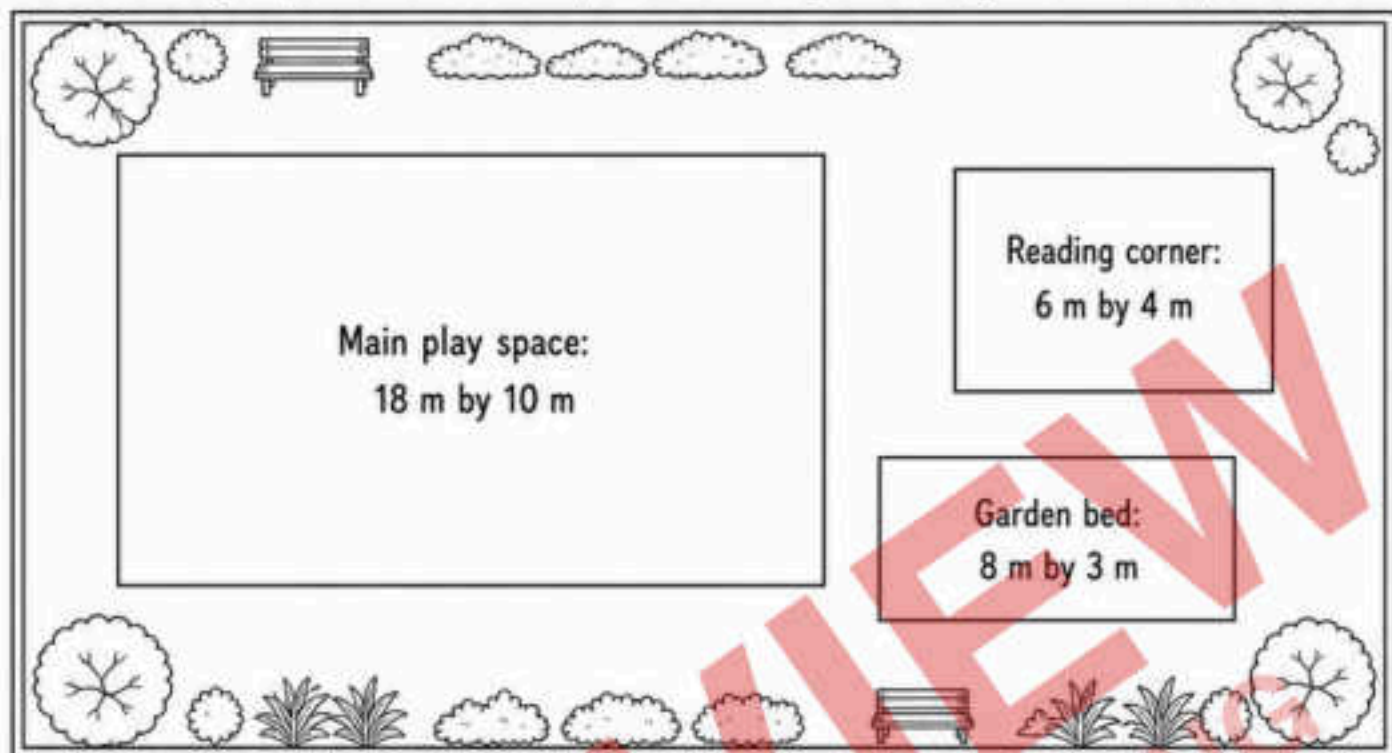
School Courtyard Area Assessment

Page 1

Name: _____

Date: _____

Use the courtyard plan to answer the questions. Show your working and include square units.



1. Find the area of the main play space.

2. Find the area of the reading corner.

3. Find the area of the garden bed.

4. Find the total area of all three spaces.

5. Which space has the greatest area? Explain how you know.



School Courtyard Area Assessment

Page 2

Name: _____

Design one new rectangular feature for the courtyard. Each grid square is 1 m^2 .

Design brief: The feature must have an area between 30 m^2 and 60 m^2 .

6. Draw and label your feature on the grid.



1 square = 1 m^2

Feature	Length	Width	Area

7. Write the number sentence you used to find its area.

8. Explain why your design meets the brief.

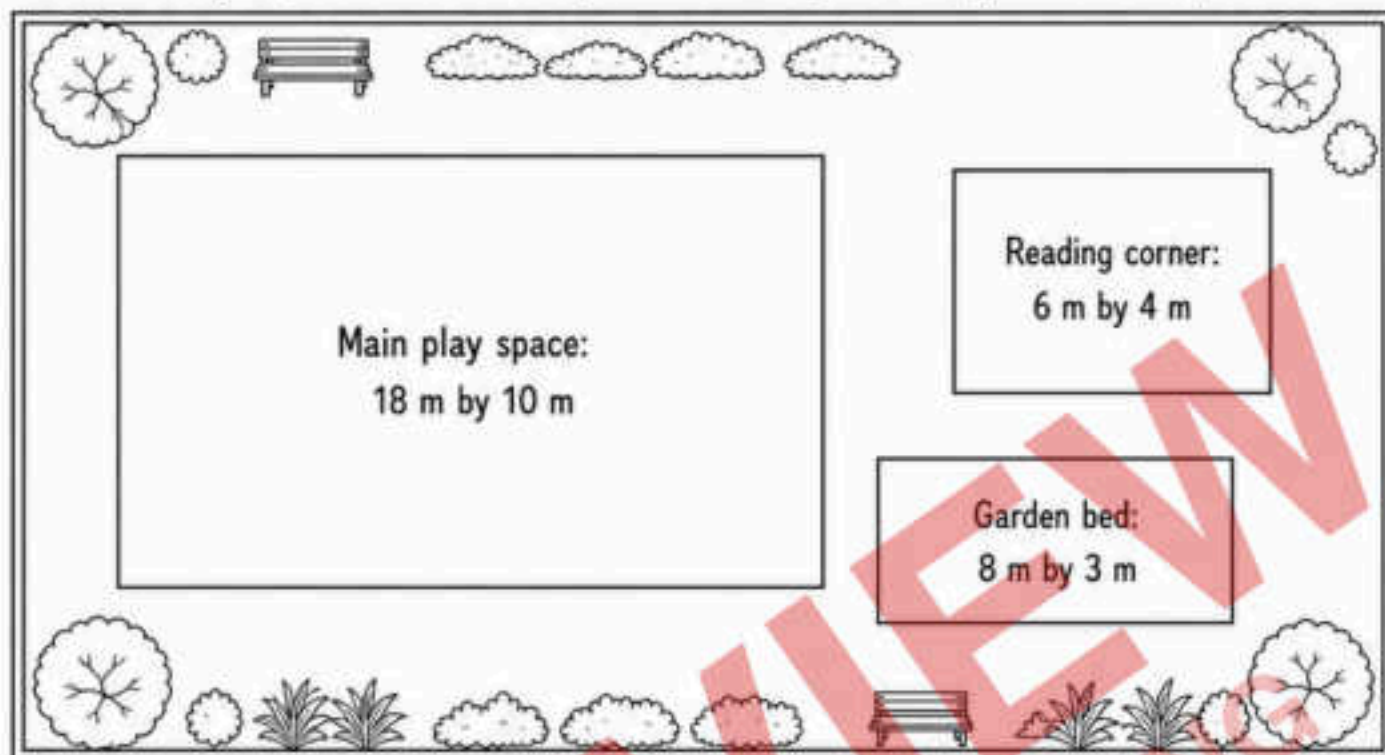


School Courtyard Area Assessment

Name: ANSWERS

Date: _____

Use the courtyard plan to answer the questions. Show your working and include square units.



1. Find the area of the main play space.

$$18 \times 10 = 180 \text{ m}^2$$

2. Find the area of the reading corner.

$$6 \times 4 = 24 \text{ m}^2$$

3. Find the area of the garden bed.

$$8 \times 3 = 24 \text{ m}^2$$

4. Find the total area of all three spaces.

$$180 + 24 + 24 = 228 \text{ m}^2$$

5. Which space has the greatest area? Explain how you know.

Main play space, because 180 m^2 is greater than 24 m^2 .

School Courtyard Area Assessment

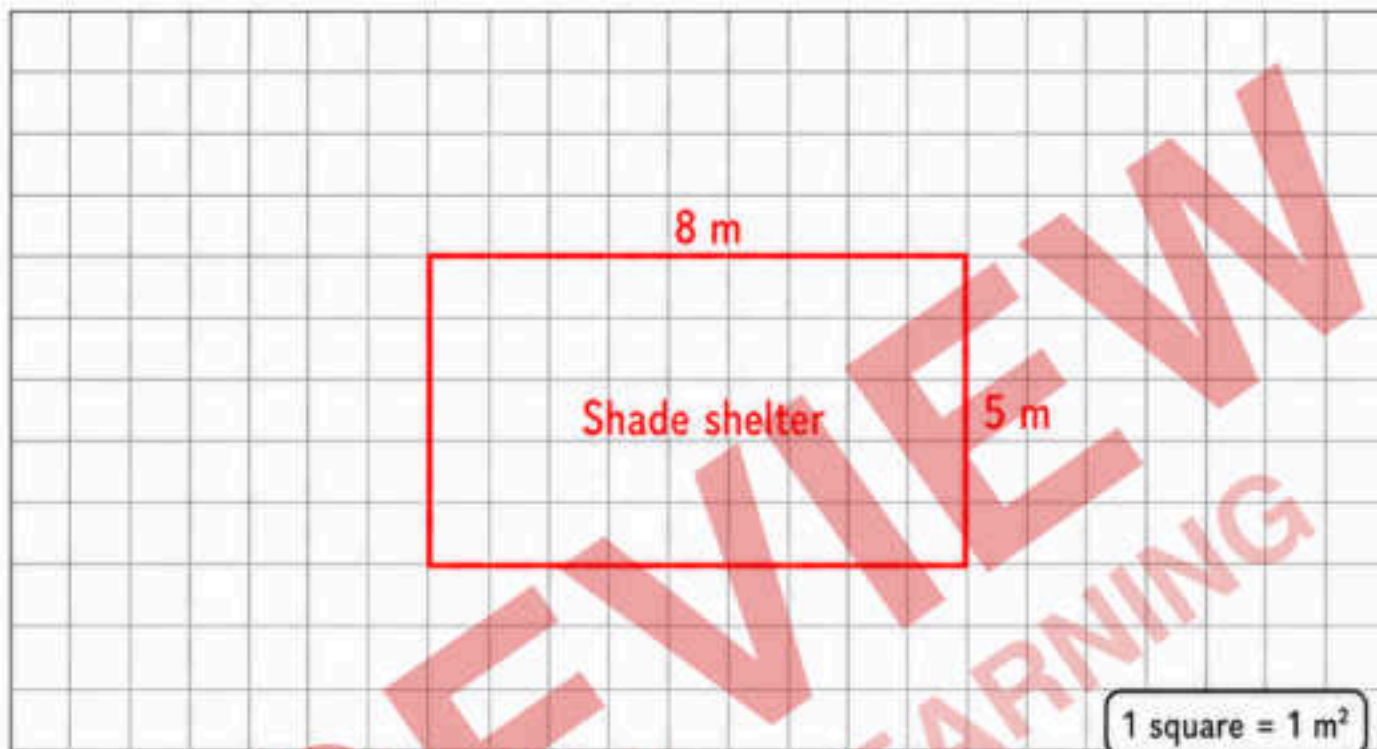
Page 2

Name: ANSWERS

Design one new rectangular feature for the courtyard. Each grid square is 1 m^2 .

Design brief: The feature must have an area between 30 m^2 and 60 m^2 .

6. Draw and label your feature on the grid.



Feature	Length	Width	Area
Shade shelter	8 m	5 m	40 m^2

7. Write the number sentence you used to find its area.

$8 \times 5 = 40 \text{ m}^2$

8. Explain why your design meets the brief.

40 m^2 is between 30 m^2 and 60 m^2 , so the design meets the brief.

Area - Year 5 Rubric

Name: _____

Date: _____

Criteria	BEGINNING	DEVELOPING	ACHIEVING	CONFIDENT	EXCEEDING
Understands area	needs support to identify area and square units.	some correct steps in identifying area and square units.	mostly accurate in identifying area and square units.	accurate and clear understanding of area and square units.	efficient and well explained understanding of area and square units.
Calculates rectangle area	needs support to calculate rectangle area.	some correct steps when calculating rectangle area.	mostly accurate calculations using length $\times$ width.	accurate and clear calculations using length $\times$ width.	efficient and well explained calculations using length $\times$ width.
Works with composite shapes	needs support to split shapes or add areas.	some correct steps when splitting shapes and adding areas.	mostly accurate when splitting shapes and adding areas.	accurate and clear when splitting shapes and adding areas.	efficient and well explained when splitting shapes and adding areas.
Explains reasoning and units	needs support to explain reasoning or use units.	some correct reasoning or units used.	mostly clear reasoning and correct units.	clear reasoning and consistent use of square units.	thorough reasoning and precise use of square units.

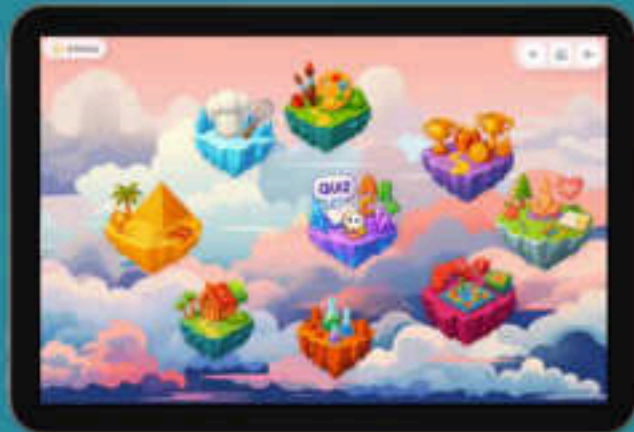
Focus: area of rectangles, square units, joined shapes and practical measurement problems.

Area Year 5



Area Quiz





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Area 2.0 - Year 6

Table of Contents	
Presentation: Area	
Classroom Display: Area Toolkit	
Activity: Classroom Area Quest	
Game: Area Bang!	
Worksheet: Rectangle Area Practice	
Worksheet: Composite Rectangles	
Worksheet: Area/Perimeter Investigation	
Worksheet: Hectares And Large Areas	
Worksheet: Triangle Area	
Worksheet: Classroom Redesign Project	
Worksheet: Area Pixel Design Challenge	
Quiz: Area	
Assessment: Community Garden Area	
Rubric: Area Year 6 Rubric	



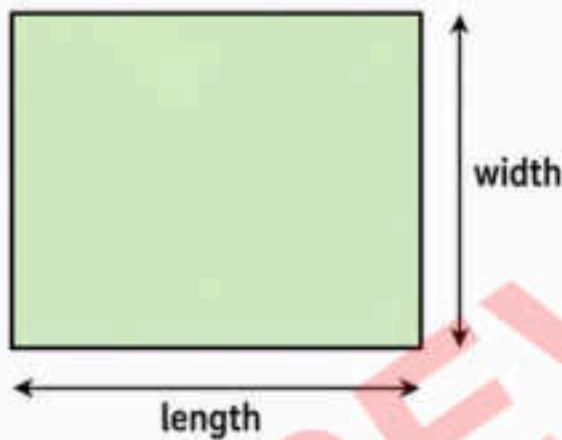
Area Toolkit

Area is the space inside a flat shape.

Perimeter is the distance around the edge.

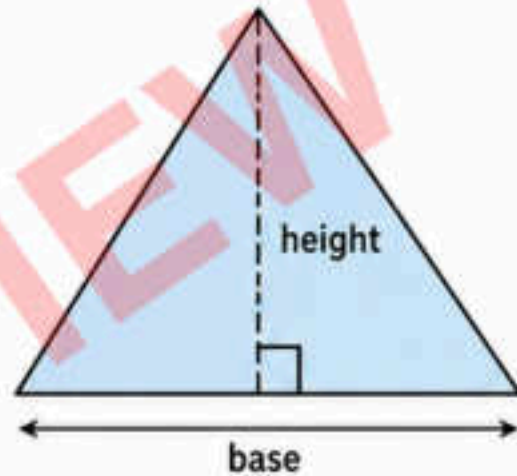
Rectangle:

$$\text{Area} = \text{length} \times \text{width}$$



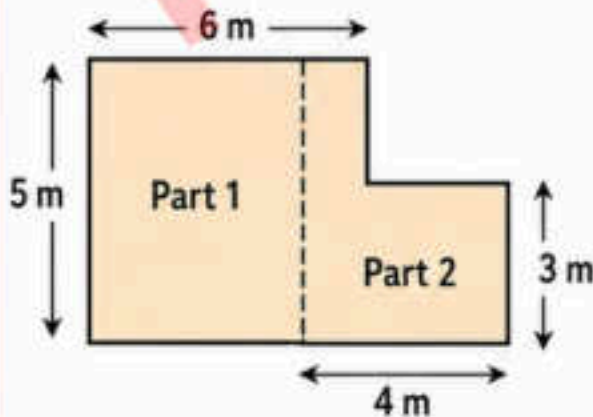
Triangle:

$$\text{Area} = (\text{base} \times \text{height}) / 2$$

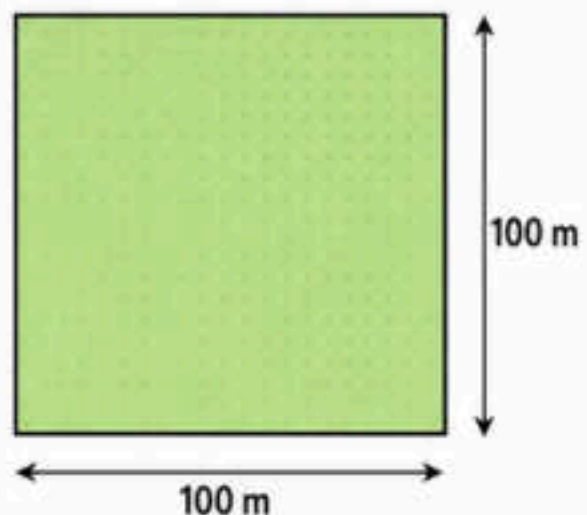


Composite shapes:

split, solve, add or subtract.



$$1 \text{ hectare} = 10\,000 \text{ m}^2$$



Use square units:
cm², m², km²



Classroom Area Quest



1

Whiteboard



Measure the length
and width.
Calculate the area.

2

Student Desk



Find the area of
one desk.
Then estimate all desks.

3

Reading Rug



Measure the rug.
Record the area in m^2 .

4

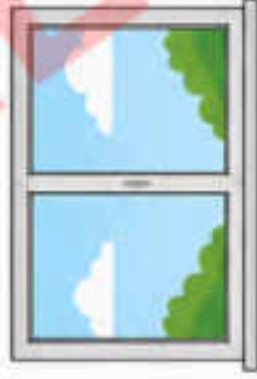
Book Cover



Measure a book cover.
Give the area in cm^2 .

5

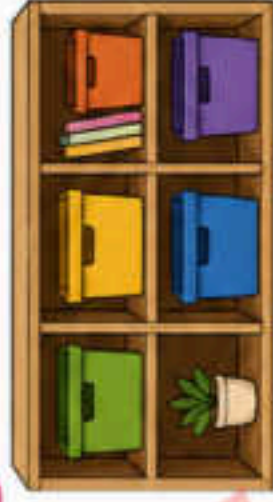
Window



Find the area of
one window.
Compare it with a desk.

6

Storage Shelf



Measure a shelf face.
Calculate its area.

Record your measurements on the recording sheet.





Classroom Area Quest 2

7.

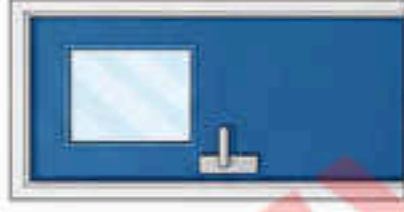
Classroom Floor



Estimate first.
Then measure and calculate the area.

8.

Door



Find the area of one door.
How many doors are in the room?

9.

Noticeboard



Calculate the display area available for posters.

10.

Tablet Screen



Find the screen area in cm^2 .
Compare with a book.

11.

Teacher Table



Measure the top. Work out its area in m^2 .

12.

Learning Zone



Split the zone into rectangles.
Add the areas.



Use sensible units and show your working.



Classroom Area Quest Recording Sheet

Name: _____

Date: _____

Choose classroom objects. Estimate, measure, calculate and check your area units.

Object	Estimate	Length	Width	Area	Unit	Check
1.						
2.						
3.						
4.						
5.						
6.						
7.						
8.						

Which object had the greatest area? _____

How did your estimate compare with your calculation? _____

Explain one measurement choice you made. _____

Area Bang!



Players: 2-4



Materials: Area Bang! cards, paper and pencil



Set Up: Shuffle the cards and place them face down.



How To Play

- 1 Draw one card.
- 2 Find the area.
- 3 Say the answer with square units.
- 4 Keep the card if your answer is correct.



BANG! Return your score cards to the pile. Keep playing.



Winner: the player with the most cards at the end.

Area = length x width

Area Bang! Cards



1

6 cm x 5 cm

2

8 cm x 7 cm

3

11 m x 4 m

4

9 m x 6 m

5

12 cm x 3 cm

6

15 m x 2 m

7

4 rows of
9 squares

8

7 rows of
8 squares

9

length 13 m,
width 5 m

10

length 10 cm,
width 9 cm

11

BANG!

12

BANG!

Find the area. Keep the card if your answer is correct.

Area Bang! Cards 2



13

$14\text{ m} \times 6\text{ m}$

14

$18\text{ cm} \times 4\text{ cm}$

15

$16\text{ m} \times 3\text{ m}$

16

$25\text{ cm} \times 8\text{ cm}$

17

9 rows of
9 squares

18

12 rows of
6 squares

19

triangle:
base 10 cm,
height 8 cm

20

triangle:
base 12 m,
height 5 m

21

$1\text{ ha} = ?\text{ m}^2$

22

$300\text{ m} \times 80\text{ m}$
in hectares

23



24



Find the area. Use square units.

Rectangle Area Practice

Name: _____ Date: _____

Find the area of each rectangle. Show your working.

$$\text{Area} = \text{length} \times \text{width}$$

A. Calculate the area

1. $7 \text{ cm} \times 6 \text{ cm} =$ _____
2. $12 \text{ m} \times 8 \text{ m} =$ _____
3. $11 \text{ mm} \times 11 \text{ mm} =$ _____
4. $15 \text{ km} \times 10 \text{ km} =$ _____
5. $60 \text{ m} \times 60 \text{ m} =$ _____
6. $80 \text{ cm} \times 30 \text{ cm} =$ _____

B. Word problems

7. A poster is 9 cm long and 6 cm wide. What is its area? _____
8. A garden bed is 7 m long and 4 m wide. What is its area? _____
9. A classroom mat is 9 m long and 7 m wide. What is its area? _____
10. A book cover is 26 cm long and 20 cm wide. What is its area? _____

Use square units in every answer.

Rectangle Area Practice

Name: **ANSWERS** Date: _____

Find the area of each rectangle. Show your working.

$$\text{Area} = \text{length} \times \text{width}$$

A. Calculate the area

1. $7 \text{ cm} \times 6 \text{ cm} = 42 \text{ cm}^2$
2. $12 \text{ m} \times 8 \text{ m} = 96 \text{ m}^2$
3. $11 \text{ mm} \times 11 \text{ mm} = 121 \text{ mm}^2$
4. $15 \text{ km} \times 10 \text{ km} = 150 \text{ km}^2$
5. $60 \text{ m} \times 60 \text{ m} = 3\,600 \text{ m}^2$
6. $80 \text{ cm} \times 30 \text{ cm} = 2\,400 \text{ cm}^2$

B. Word problems

7. A poster is 9 cm long and 6 cm wide.
What is its area? 54 cm^2
8. A garden bed is 7 m long and 4 m wide.
What is its area? 28 m^2
9. A classroom mat is 9 m long and 7 m wide.
What is its area? 63 m^2
10. A book cover is 26 cm long and 20 cm wide.
What is its area? 520 cm^2

Use square units in every answer.

Composite Rectangles

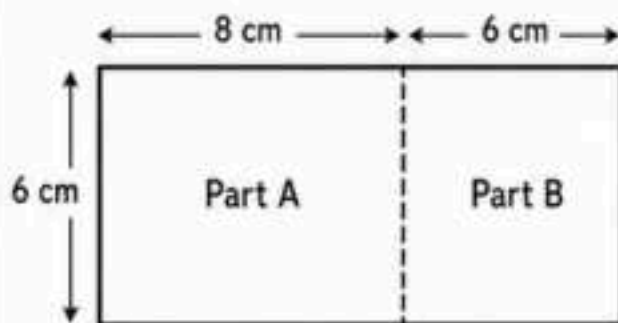
Name: _____

Date: _____

Split each shape into rectangles. Find each part, then find the total area.

Area = length x width

1. Two joined rectangles

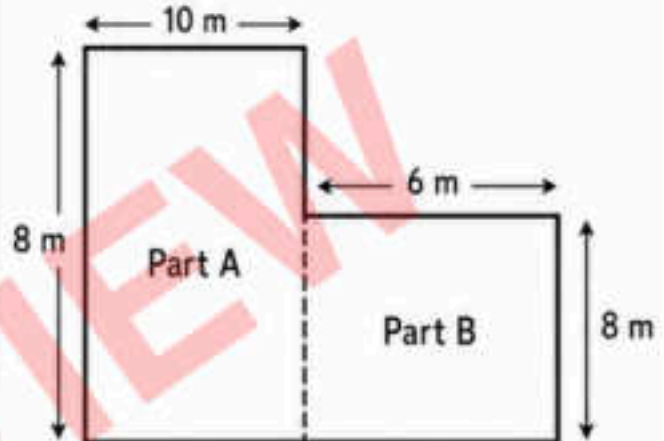


Part A: _____ x _____ = _____

Part B: _____ x _____ = _____

Total area = _____

2. L-shaped garden

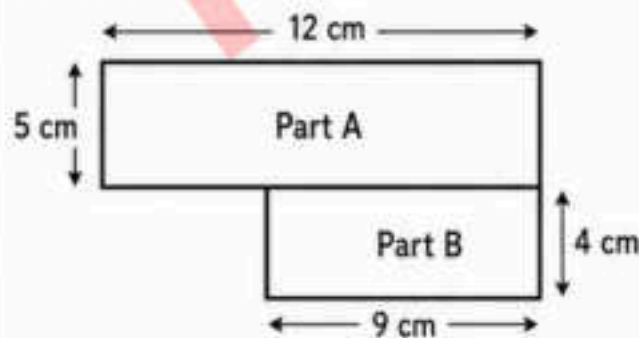


Part A: _____ x _____ = _____

Part B: _____ x _____ = _____

Total area = _____

3. Desk layout

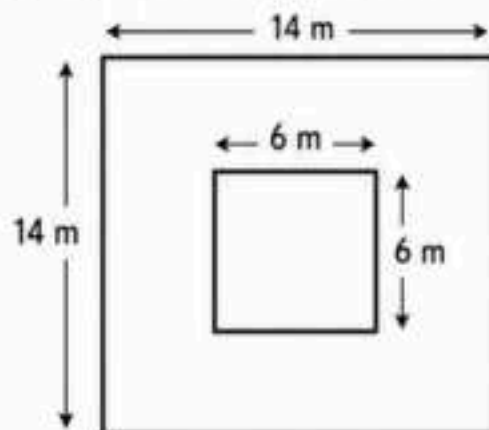


Part A: _____ x _____ = _____

Part B: _____ x _____ = _____

Total area = _____

4. Square card with a hole



Outside square: _____ x _____ = _____

Hole (to subtract): _____ x _____ = _____

Shaded area = _____

Show your split and use square units.

Composite Rectangles

Name: _____

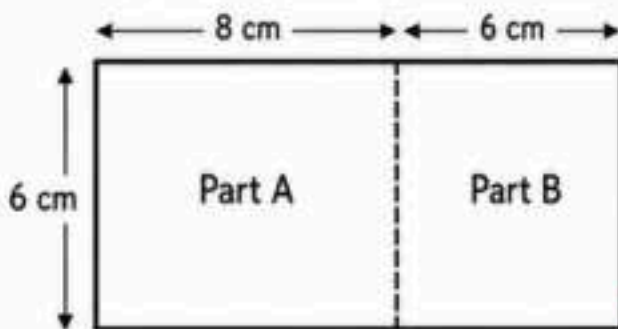
ANSWERS

Date: _____

Split each shape into rectangles. Find each part, then find the total area.

Area = length x width

1. Two joined rectangles

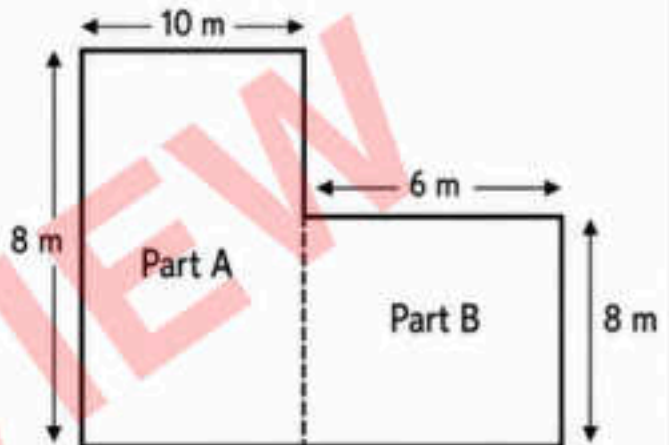


Part A: $8 \text{ cm} \times 6 \text{ cm} = 48 \text{ cm}^2$

Part B: $6 \text{ cm} \times 6 \text{ cm} = 36 \text{ cm}^2$

Total area = $48 \text{ cm}^2 + 36 \text{ cm}^2 = 84 \text{ cm}^2$

2. L-shaped garden

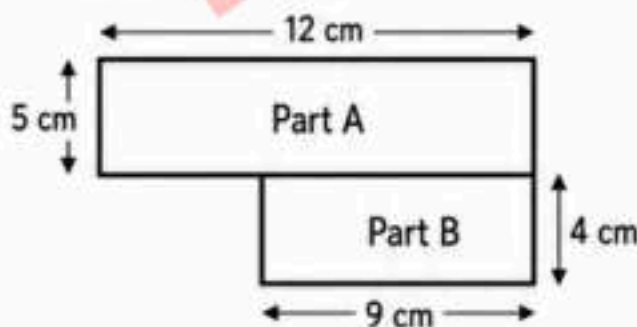


Part A: $10 \text{ m} \times 8 \text{ m} = 80 \text{ m}^2$

Part B: $6 \text{ m} \times 8 \text{ m} = 48 \text{ m}^2$

Total area = $80 \text{ m}^2 + 48 \text{ m}^2 = 128 \text{ m}^2$

3. Desk layout

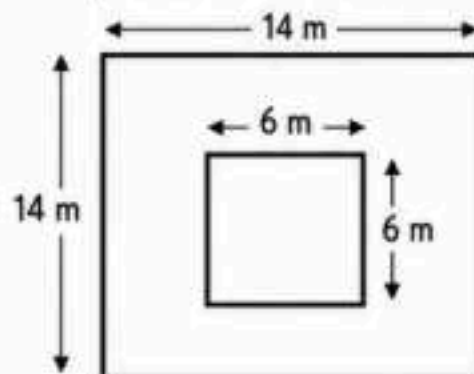


Part A: $12 \text{ cm} \times 5 \text{ cm} = 60 \text{ cm}^2$

Part B: $9 \text{ cm} \times 4 \text{ cm} = 36 \text{ cm}^2$

Total area = $60 \text{ cm}^2 + 36 \text{ cm}^2 = 96 \text{ cm}^2$

4. Square card with a hole



Outside square: $14 \text{ m} \times 14 \text{ m} = 196 \text{ m}^2$

Hole (to subtract): $6 \text{ m} \times 6 \text{ m} = 36 \text{ m}^2$

Shaded area = $196 \text{ m}^2 - 36 \text{ m}^2 = 160 \text{ m}^2$

Show your split and use square units.

Area And Perimeter Investigation

Name: _____

Date: _____

Use the dot grid to compare area and perimeter. Label every rectangle.



Task 1: Draw two rectangles with an area of 36 cm^2 .
Make their perimeters different.

Task 2: Draw two rectangles with a perimeter of 28 cm.
Make their areas different.

Shape	Length	Width	Area	Perimeter
1				
2				
3				
4				

What stayed the same? _____

What changed? _____

Explain the pattern you noticed. _____

Area And Perimeter Investigation

Name: ANSWERS

Date: _____

Use the dot grid to compare area and perimeter. Label every rectangle.



Task 1: Draw two rectangles with an area of 36 cm^2 .

Make their perimeters different.

6×6 : area 36 cm^2 , perimeter 24 cm

4×9 : area 36 cm^2 , perimeter 26 cm

Task 2: Draw two rectangles with a perimeter of 28 cm .

Make their areas different.

7×7 : perimeter 28 cm , area 49 cm^2

12×2 : perimeter 28 cm , area 24 cm^2

Shape	Length	Width	Area	Perimeter
A	6	6	36 cm^2	24 cm
B	4	9	36 cm^2	26 cm
C	7	7	49 cm^2	28 cm
D	12	2	24 cm^2	28 cm

What stayed the same? In Task 1, the area stayed the same.

What changed? In Task 1, the perimeter changed. In Task 2, the areas changed.

Explain the pattern you noticed. Answers may vary. Same area does not always mean same perimeter. Same perimeter does not always mean same area.

Hectares And Large Areas

Name: _____ Date: _____

$$1 \text{ hectare} = 10\,000 \text{ m}^2$$

Choose sensible units and convert large areas to hectares.

A. Choose the best unit: m^2 , ha or km^2

1. classroom floor _____
2. farm paddock _____
3. state or territory _____

B. Convert to hectares

4. $240 \text{ m} \times 100 \text{ m} =$ _____ $\text{m}^2 =$ _____ ha
5. $500 \text{ m} \times 150 \text{ m} =$ _____ $\text{m}^2 =$ _____ ha
6. $80 \text{ m} \times 100 \text{ m} =$ _____ $\text{m}^2 =$ _____ ha

C. Compare

7. Paddock A is 1.8 ha. Paddock B is $240 \text{ m} \times 100 \text{ m}$.

Which is larger? By how much?

Hectares And Large Areas

Name: _____ **ANSWERS** _____ Date: _____

$$1 \text{ hectare} = 10\,000 \text{ m}^2$$

Choose sensible units and convert large areas to hectares.

A. Choose the best unit: m^2 , ha or km^2

1. classroom floor _____ **m^2**
2. farm paddock _____ **ha**
3. state or territory _____ **km^2**

B. Convert to hectares

4. $240 \text{ m} \times 100 \text{ m} =$ **$24\,000 \text{ m}^2$** $=$ **2.4 ha**
5. $500 \text{ m} \times 150 \text{ m} =$ **$75\,000 \text{ m}^2$** $=$ **7.5 ha**
6. $80 \text{ m} \times 100 \text{ m} =$ **$8\,000 \text{ m}^2$** $=$ **0.8 ha**

C. Compare

7. Paddock A is 1.8 ha. Paddock B is $240 \text{ m} \times 100 \text{ m}$.
Which is larger? By how much?

Paddock B is larger by 0.6 ha.

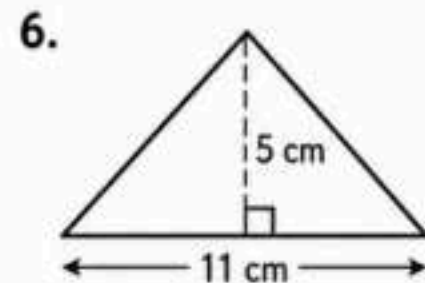
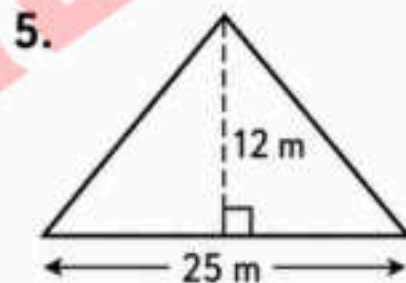
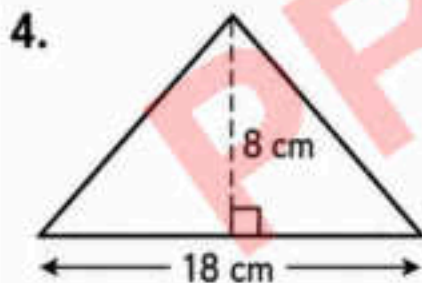
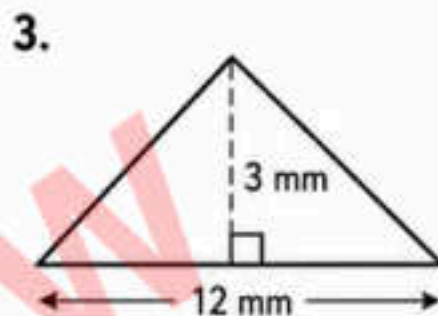
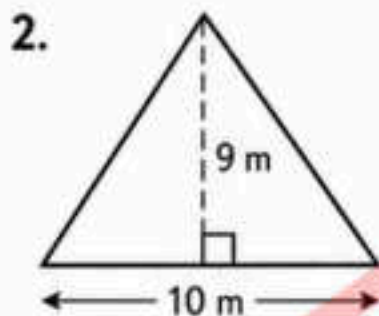
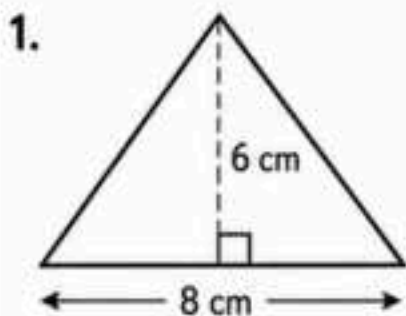
Triangle Area

Name: _____

Date: _____

$$\text{Area} = (\text{base} \times \text{height}) / 2$$

Use the base and perpendicular height to find each triangle's area.



What does perpendicular height mean? _____

Why do triangle answers use square units? _____

Triangle Area

Name: _____

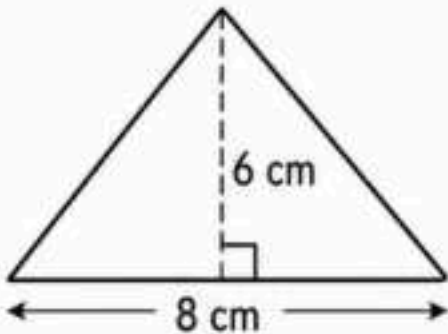
ANSWERS

Date: _____

Use the base and perpendicular height to find each triangle's area.

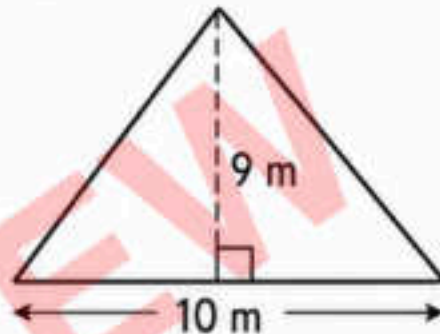
$$\text{Area} = (\text{base} \times \text{height}) / 2$$

1.



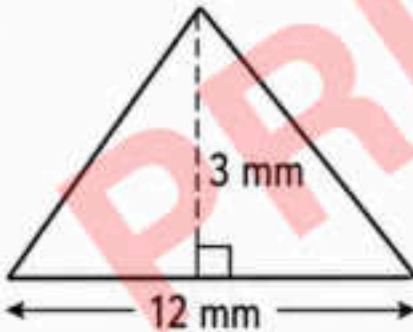
Area = **24 cm²**

2.



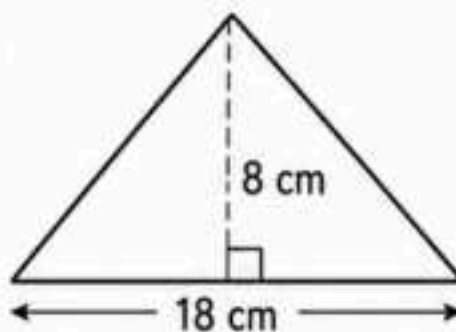
Area = **45 m²**

3.



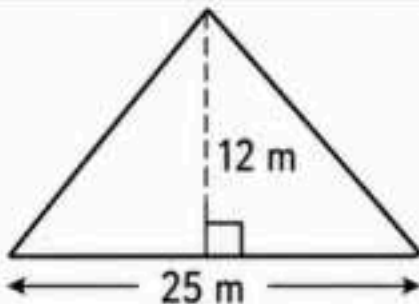
Area = **18 mm²**

4.



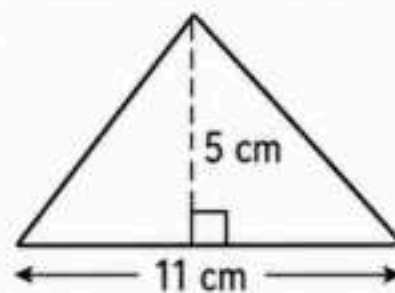
Area = **72 cm²**

5.



Area = **150 m²**

6.



Area = **27.5 cm²**

What does perpendicular height mean? **It meets the base at a right angle.**

Why do triangle answers use square units? **Area measures surface space.**

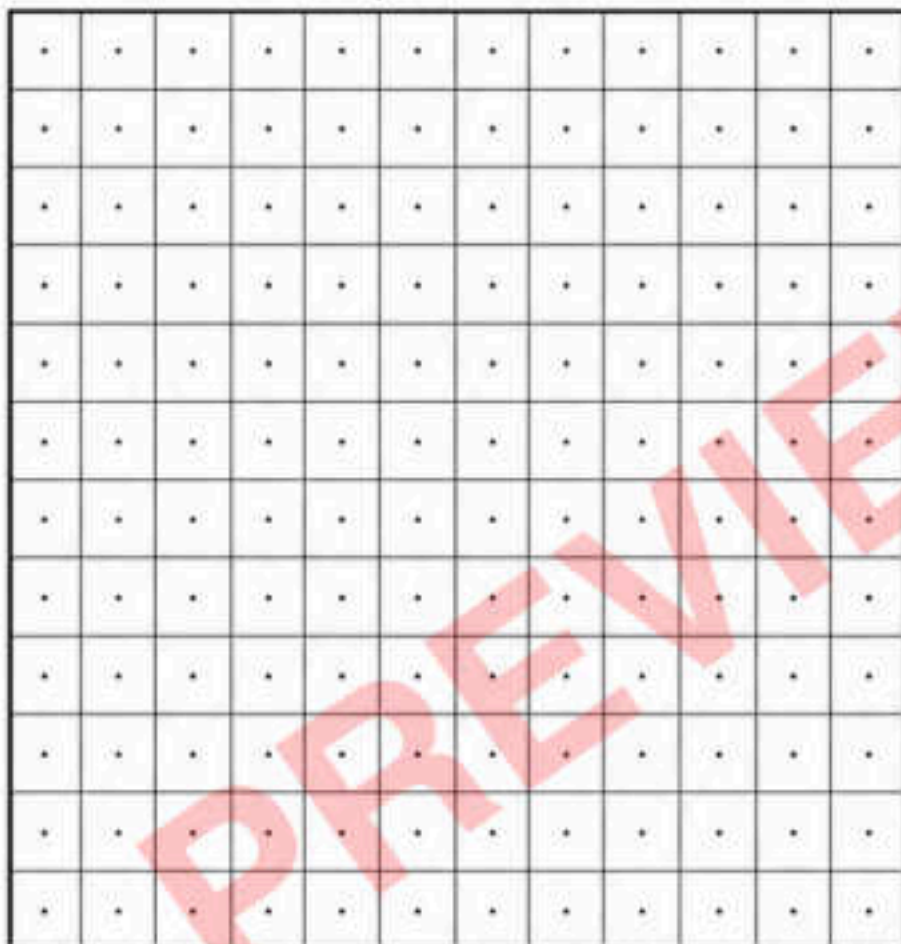
Classroom Redesign Project

Name: _____

Date: _____

Plan a classroom on the grid. Each square = 1 m^2 . Label each object and calculate its area.

1 square = 1 m^2



Include:

1. student desks:
at least 30 m^2
2. reading zone:
no more than 18 m^2
3. storage:
at least 16 m^2
4. board:
exactly 6 m^2
5. two square bookshelves,
each with
perimeter 12 m
6. doors and windows
around the perimeter

Object	Length	Width	Area	Perimeter
1.				
2.				
3.				
4.				
5.				

Which object takes the most area? _____

Classroom Redesign Project

Name: **ANSWERS**

Date: _____

Plan a classroom on the grid. Each square = 1 m^2 . Label each object and calculate its area.

1 square = 1 m^2



Include:

1. student desks:
desks $\geq 30 \text{ m}^2$
2. reading zone:
reading $\leq 18 \text{ m}^2$
3. storage:
storage $\geq 16 \text{ m}^2$
4. board:
board = 6 m^2
5. two square bookshelves,
each with
perimeter 12 m
**bookshelf: $3 \text{ m} \times 3 \text{ m}$,
area 9 m^2 , perimeter 12 m**
6. doors and windows
around the perimeter
**doors/windows placed
on perimeter**

Object	Length (m)	Width (m)	Area (m^2)	Perimeter (m)
1.				
2.				
3.				
4.				
5.				

Which object takes the most area? **Answers will vary.**

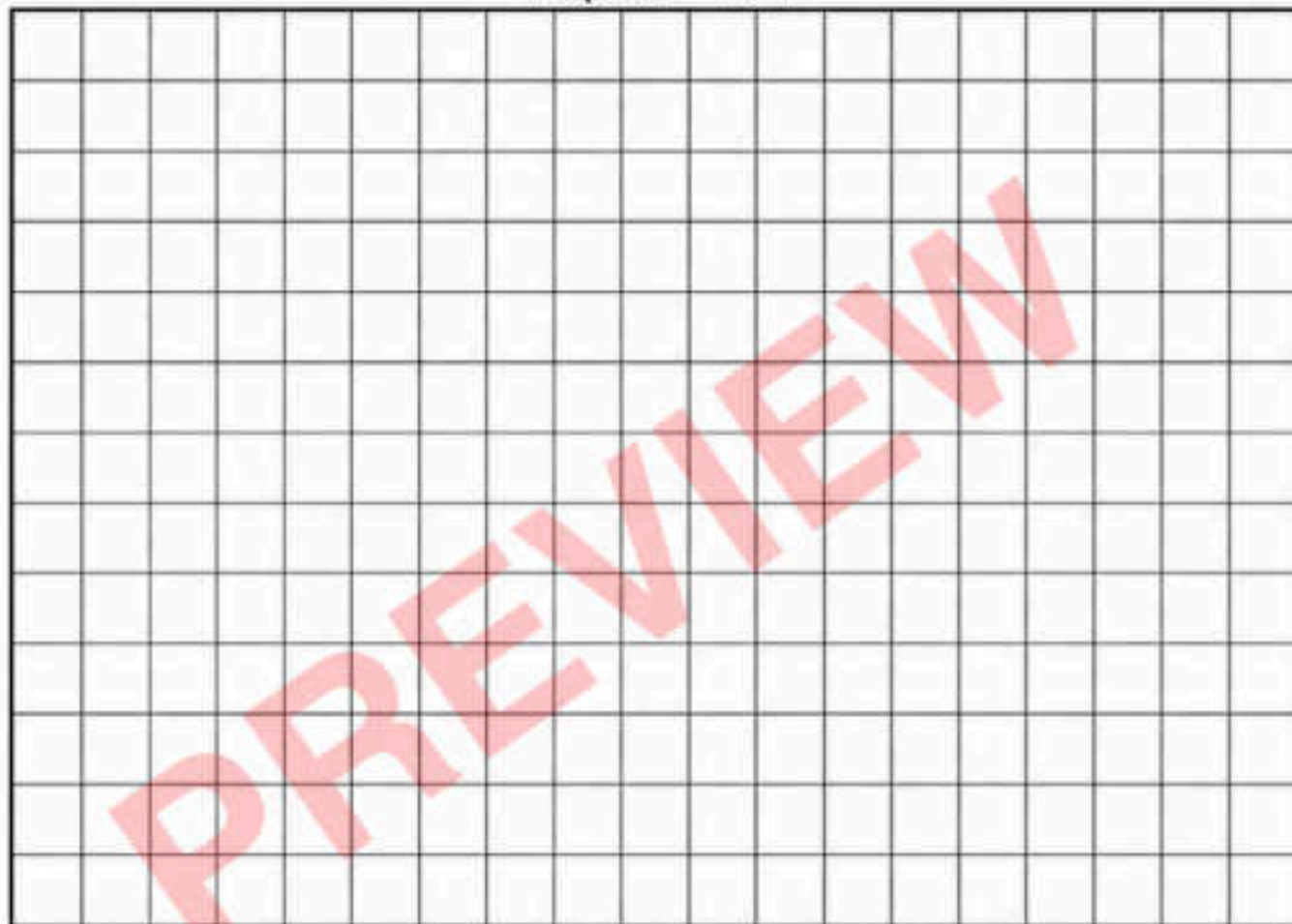
Area Pixel Design Challenge

Name: _____

Date: _____

Create a pixel design using rectangles and triangles.
Label at least six regions and calculate each area.

1 square = 1 cm²



Region	Shape	Base/Length	Height/Width	Area
1				
2				
3				
4				
5				
6				

Total coloured area = _____ cm²

How did you check your total? _____

Area Pixel Design Challenge

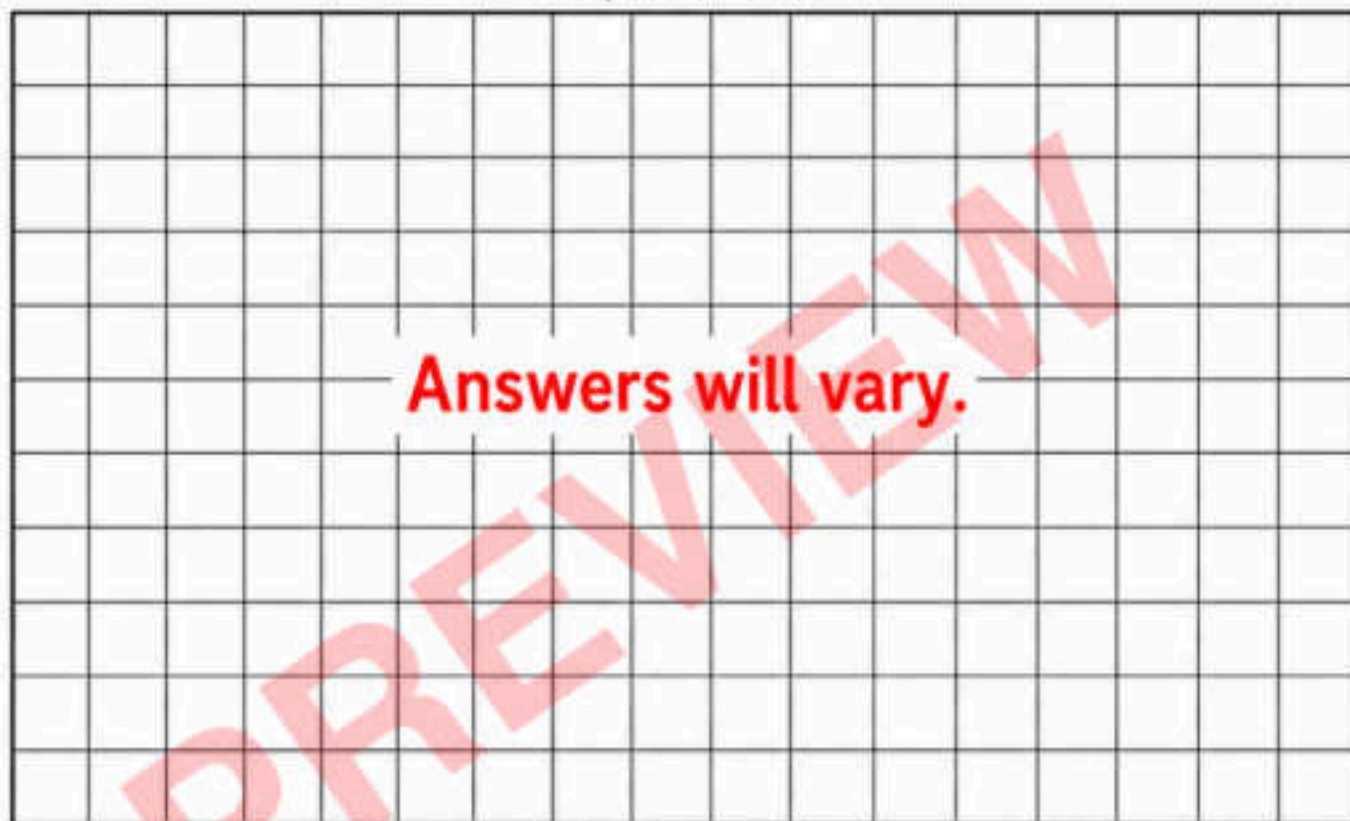


Name: _____ **ANSWERS** _____

Date: _____

Create a pixel design using rectangles and triangles.
Label at least six regions and calculate each area.

1 square = 1 cm²



Region	Shape	Base/Length	Height/Width	Area
1				
2				
3				
4				
5				
6				

Check each labelled region.
Rectangle: length x width.
Triangle: (base x height) / 2.

Total coloured area = Sum of all labelled regions. cm²

How did you check your total? Students should explain how they added
and checked each area.

Assessment: Community Garden Area

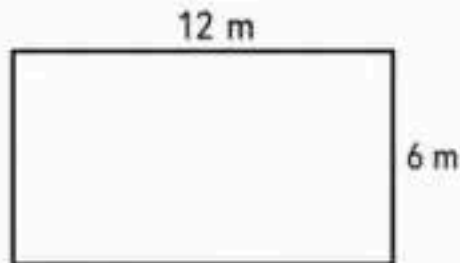
Name: _____

Date: _____

1. Formula: area of a rectangle = _____

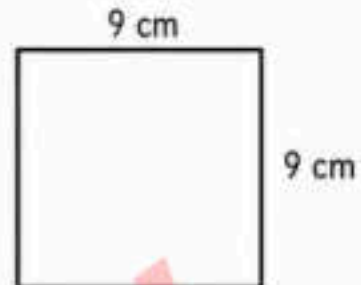
2. Calculate the area.

a)



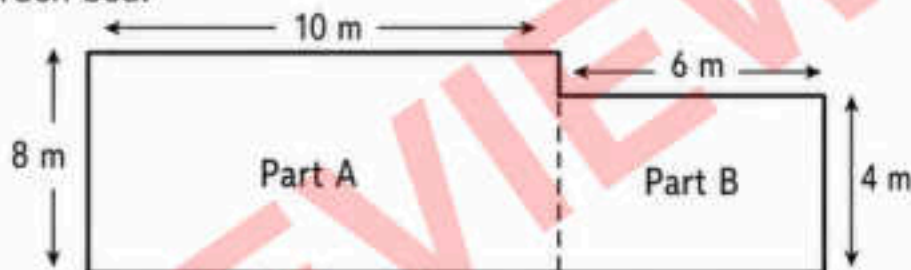
Area = _____

b)



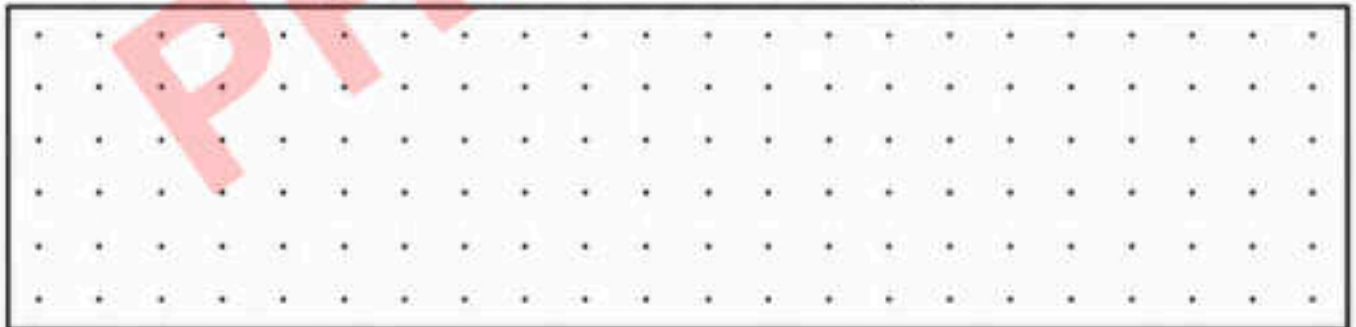
Area = _____

3. Joined garden bed.



Total area = _____

4. Draw two rectangles with the same area but different perimeters.



5. Explain your thinking.

Teacher Checklist

area formula

☐

rectangle and
composite area

☐

area/perimeter
comparison

☐

square units

☐

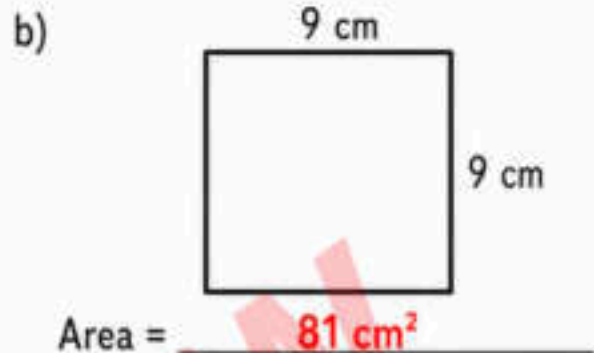
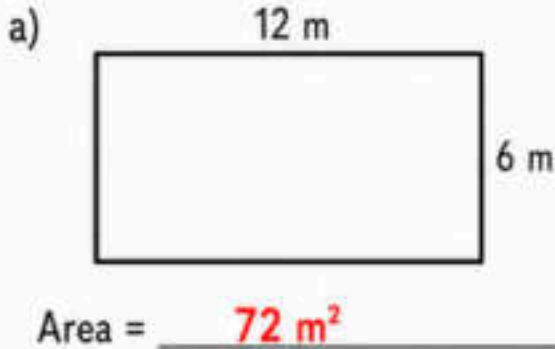
Assessment: Community Garden Area

Name: ANSWERS

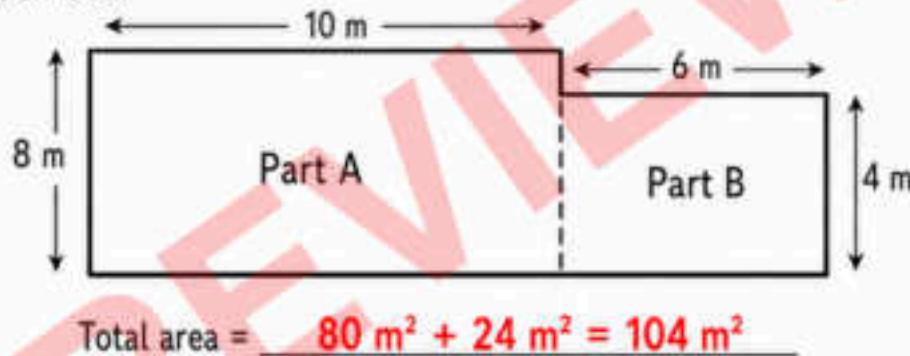
Date: _____

1. Formula: area of a rectangle = length x width

2. Calculate the area.



3. Joined garden bed.



4. Draw two rectangles with the same area but different perimeters.

Answers will vary. Example: 6 x 6 and 4 x 9 both have area 36 cm².

5. Explain your thinking.

Area counts inside space. Perimeter counts the outside edge.

Different side lengths can keep area the same but change perimeter.

Teacher Checklist

area formula



rectangle and
composite area



area/perimeter
comparison



square units



Update Area Year 6 Rubric

AC9M6M02 - Area

CRITERIA	BEGINNING	DEVELOPING	ACHIEVING	CONFIDENT	EXCEEDING
1. Area formulas	Needs help using area formulas. Rarely selects or applies a formula.	Uses area formulas with support. Some errors in application.	Correctly applies area formulas for rectangles and triangles.	Accurately and consistently applies area formulas to solve problems.	Flexibly chooses and applies formulas in a range of contextual problems.
2. Rectangle and composite area	Struggles to find area of rectangles or composite shapes.	Finds area of simple rectangles with support. Partial success with composite shapes.	Calculates area of rectangles and composite shapes using appropriate strategies.	Accurately solves a variety of rectangle and composite area problems.	Uses efficient strategies and justifies methods in complex composite problems.
3. Triangle area	Does not use the triangle area formula correctly.	Uses the triangle area formula with support. Some calculation errors.	Correctly uses $(\text{base} \times \text{height}) \div 2$ to find the area of triangles.	Accurately finds triangle area in a range of problems and contexts.	Applies triangle area in multi-step problems and explains the reasoning.
4. Area and perimeter reasoning	Limited understanding of the relationship between area and perimeter.	Describes some relationships with support. Limited comparisons.	Compares area and perimeter and solves problems with some reasoning.	Makes clear comparisons and solves problems accurately.	Provides deep reasoning and solves open-ended problems with multiple solutions.
5. Units and communication	Uses incorrect or missing units. Explanations are unclear or missing.	Uses units inconsistently. Explanations need clarification.	Uses appropriate square units and communicates solutions clearly.	Consistently uses correct square units and explains thinking clearly.	Uses precise units and provides detailed, well-justified explanations.

Area



Area Quiz



Question 1

Which formula finds the area of a rectangle?

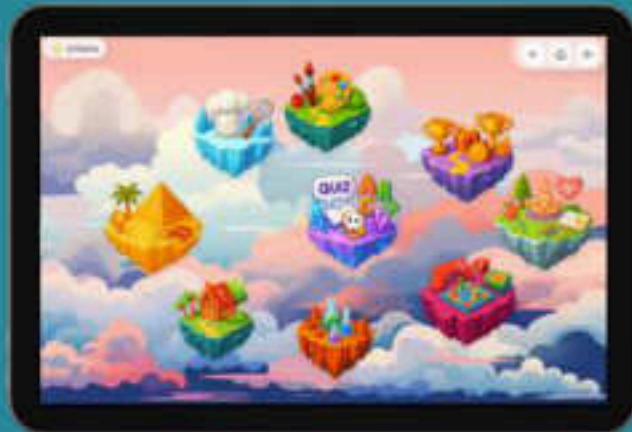
- A. length + width
- B. length x width
- C. length - width
- D. perimeter x 2



Answer 1

B. length x width





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Area - Years 5-6

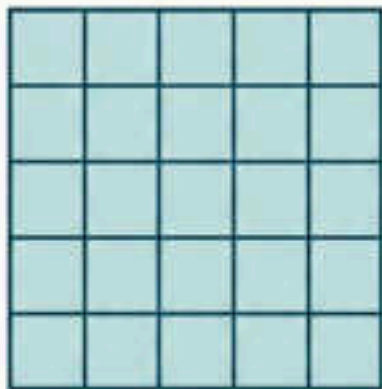
Table of Contents	
Presentation: Area	
Display: Area Formula Toolkit	
Activity: Area Architects	
Game: Match the Measure	
Worksheet: Square Units and Grid Area	
Worksheet: Rectangles and Squares	
Worksheet: Area and Perimeter	
Worksheet: Composite Rectangles	
Worksheet: Hectares	
Worksheet: Triangle Area - Year 6 Extension	
Quiz: Area	
Assessment: School Courtyard Area Audit	
Rubric: Area Years 5-6 Rubric	



AREA FORMULA TOOLKIT

SQUARE UNITS

Area measures the surface covered by equal square units.



= 1 square unit

RECTANGLES & SQUARES

$$A = l \times w$$

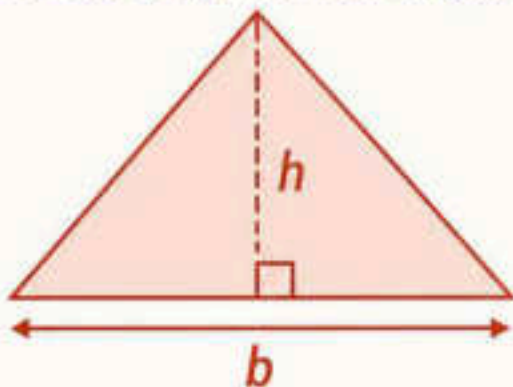


Example: $8 \text{ cm} \times 5 \text{ cm} = 40 \text{ cm}^2$

TRIANGLES

$$A = (b \times h) \div 2$$

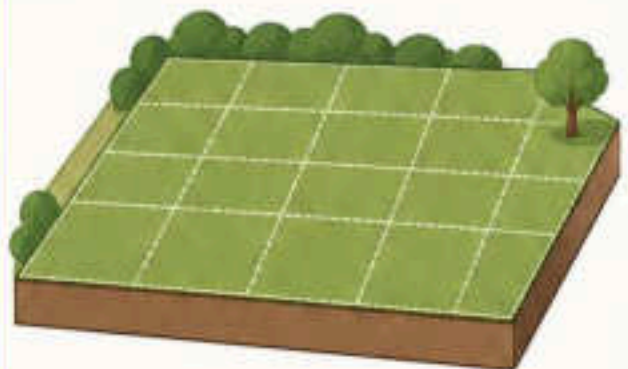
Use the perpendicular height.



Example: $(10 \text{ cm} \times 6 \text{ cm}) \div 2 = 30 \text{ cm}^2$

HECTARES

$$1 \text{ ha} = 10\,000 \text{ m}^2$$



Example: $20\,000 \text{ m}^2 = 2 \text{ ha}$

AREA ARCHITECTS - PLOT BOARD



Garden



Court



Stage



Seating



Path



Open Space

Build each challenge on the grid. Record dimensions, area and perimeter.

AREA ARCHITECTS - CHALLENGE CARDS

Make 24
square units.

Make 36
square units in two ways.

Make area 48 with
perimeter under 30.

Make two rectangles
with equal area but
different perimeter.

Include a 12-square unit
cut out.

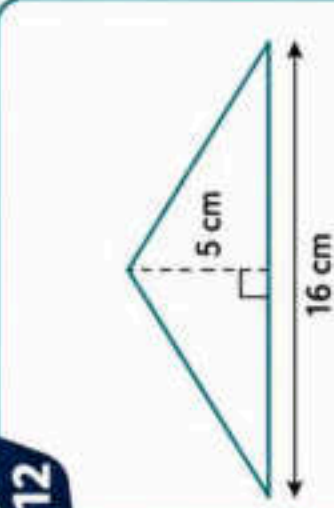
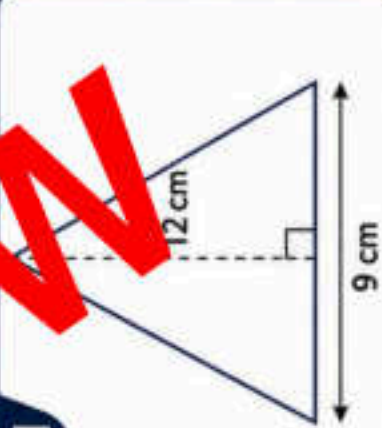
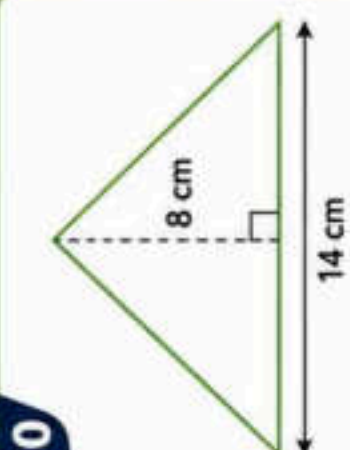
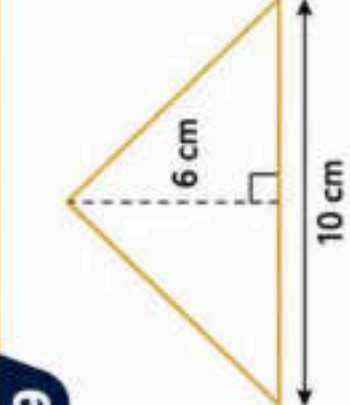
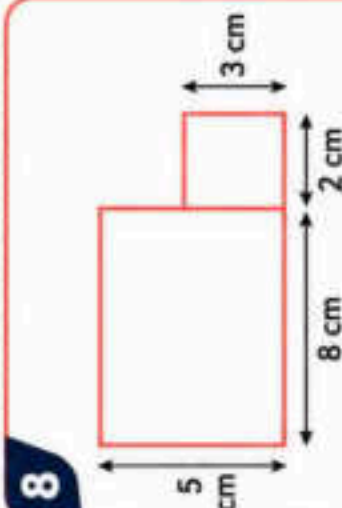
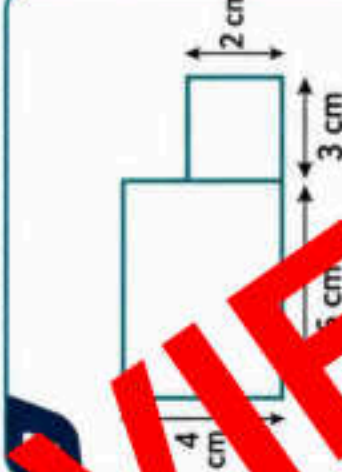
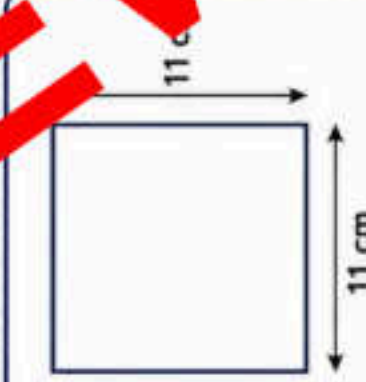
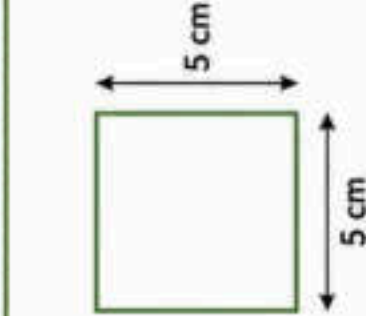
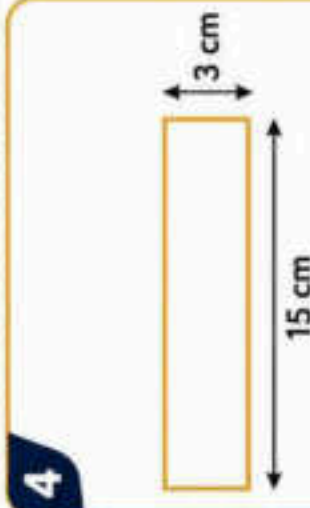
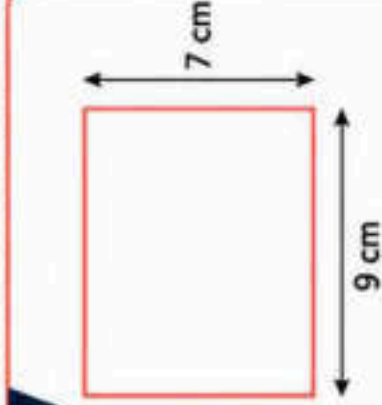
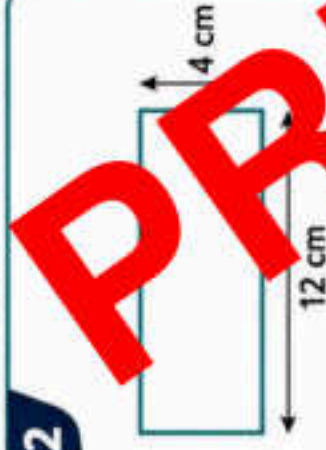
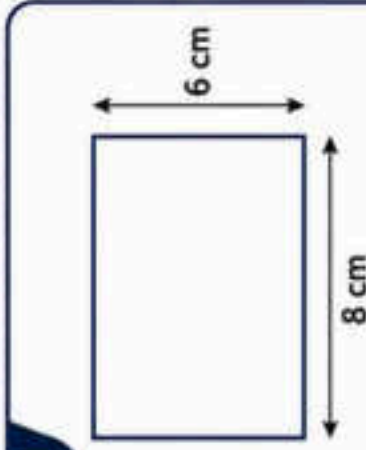
Design one quarter
of the plot as garden.

Create a triangle
with area 30 square units.

Explain one
efficient strategy.

Challenge	Dimensions	Area	Perimeter	Strategy

MATCH THE MEASURE - SHAPE CARDS



MATCH THE MEASURE - AREA CARDS

YEARS 5-6



48 cm²

48 cm²

63 cm²

45 cm²

25 cm²

121 cm²

30 cm²

46 cm²

30 cm²

56 cm²

54 cm²

40 cm²



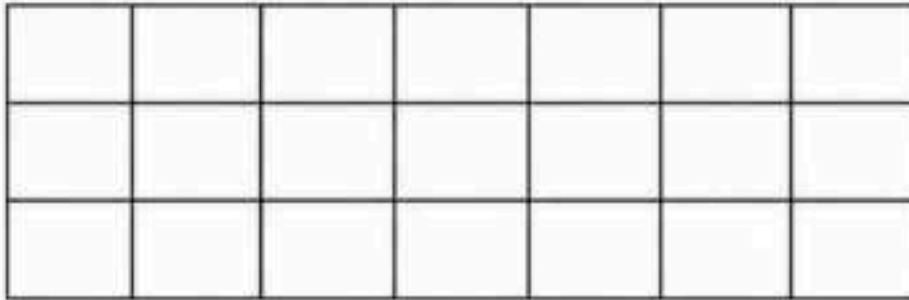
Shuffle both sets. Match each shape to its area. Some areas repeat. Justify every match. **Optional:** play a speed round.

Name: _____

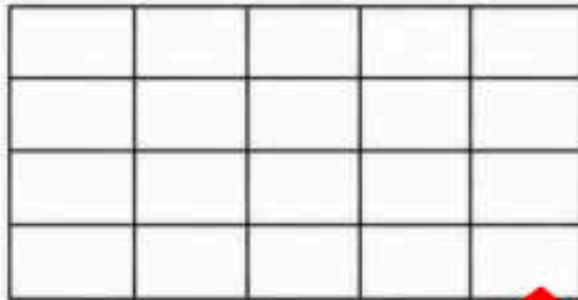
Date: _____

SQUARE UNITS AND GRID AREA

1. Count the unit squares. _____ square units



2. Find the total area of both grids. _____ square units



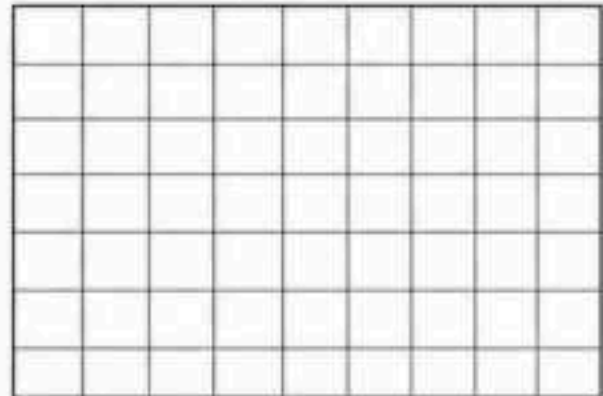
3. Find the area of a rectangle that is 7 squares by 5 squares. _____ square units

4. Find the area of a rectangle that is 9 squares by 4 squares. _____ square units

5. Draw two different rectangles with an area of 24 square units. Label their dimensions.



Dimensions: _____



Dimensions: _____

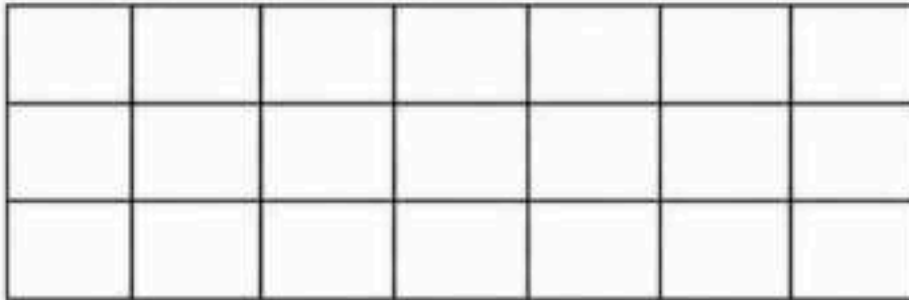
6. Explain why area is measured in squared units.

Name: ANSWERS

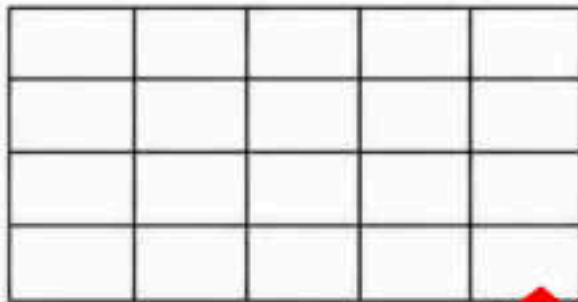
Date: _____

SQUARE UNITS AND GRID AREA

1. Count the unit squares. 21 square units



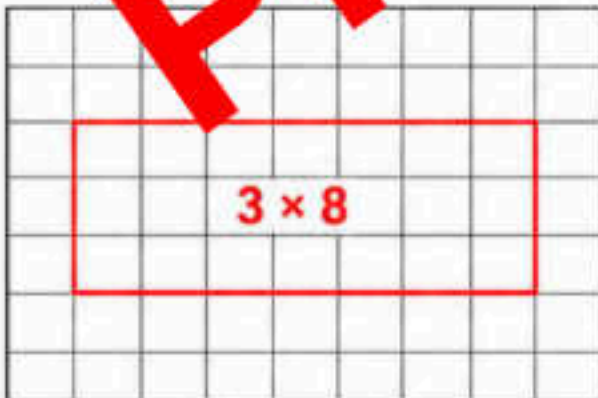
2. Find the total area of both grids. 26 square units



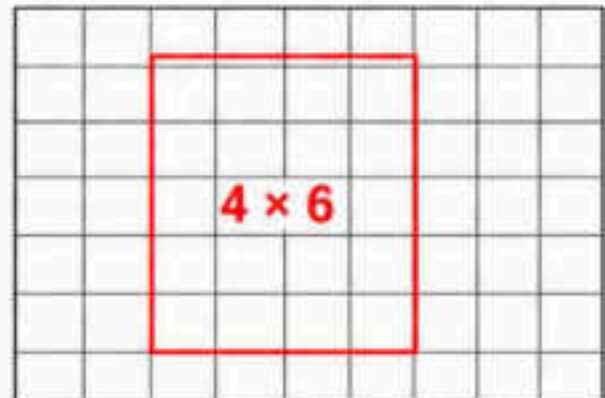
3. Find the area of a rectangle that is 7 squares by 5 squares. 35 square units

4. Find the area of a rectangle that is 9 squares by 4 squares. 36 square units

5. Draw two different rectangles with an area of 24 square units. Label their dimensions.



Dimensions: 24 square units



Dimensions: 24 square units

6. Explain why area is measured in squared units.

Area counts the equal unit squares that cover a surface, so the units are squared.

Name: _____

Date: _____



RECTANGLES AND SQUARES



1. Find the area.



Working: _____

Answer: _____

2. Find the area.



Working: _____

Answer: _____

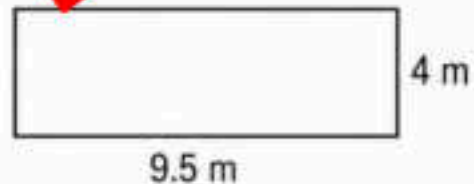
3. Find the area.



Working: _____

Answer: _____

4. Find the area.



Working: _____

Answer: _____

5. A rectangle has an area of 72 cm^2 and a length of 9 cm. Find its width.

Working: _____

Answer: _____

6. A square has an area of 144 m^2 . Find its side length.

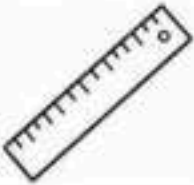
Working: _____

Answer: _____

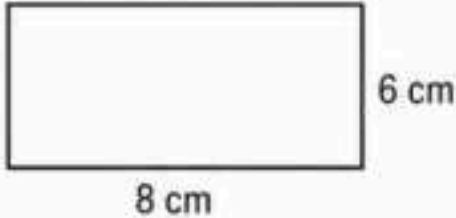
Name: _____

ANSWERS

Date: _____

**RECTANGLES AND SQUARES**

1. Find the area.

Working: $8 \times 6 = 48$ Answer: 48 cm^2

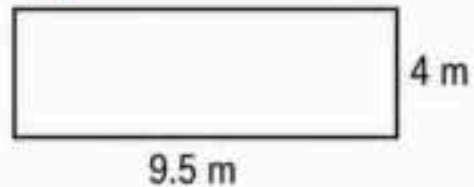
2. Find the area.

Working: $11 \times 11 = 121$ Answer: 121 m^2

3. Find the area.

Working: $14 \times 5 = 70$ Answer: 70 m^2

Find the area.

Working: $9.5 \times 4 = 38$ Answer: 38 m^2 5. A rectangle has an area of 72 cm^2 and a length of 9 cm. Find its width.Working: $72 \div 9 = 8$ Answer: 8 cm 6. A square has an area of 144 m^2 . Find its side length.Working: $\sqrt{144} = 12$ Answer: 12 m

AREA AND PERIMETER



Name: _____

Date: _____

1. Complete the table.

Length	Width	Area	Perimeter
10 cm	4 cm		
8 cm	6 cm		
12 cm	3 cm		
7 cm	7 cm		

2. Draw two different rectangles with an area of 36 cm^2 . Label each rectangle and its perimeter.



Rectangle: _____

Perimeter: _____



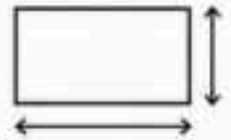
Rectangle: _____

Perimeter: _____

3. Which rectangle in the table has the greatest area? Explain.

4. Does equal perimeter always mean equal area? Use evidence from the table.

AREA AND PERIMETER



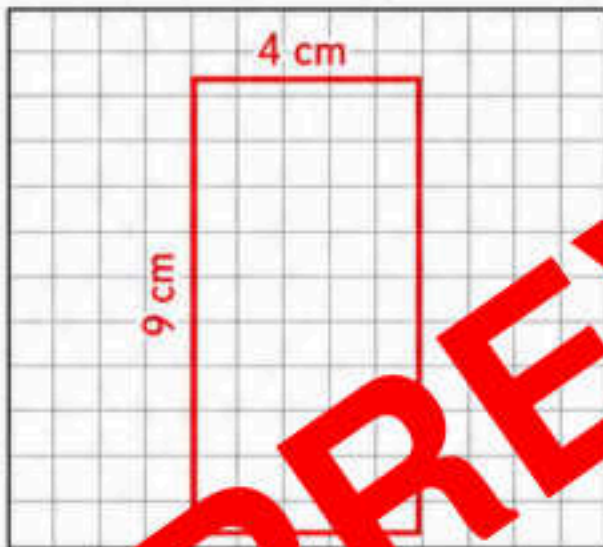
Name: _____ **ANSWERS**

Date: _____

1. Complete the table.

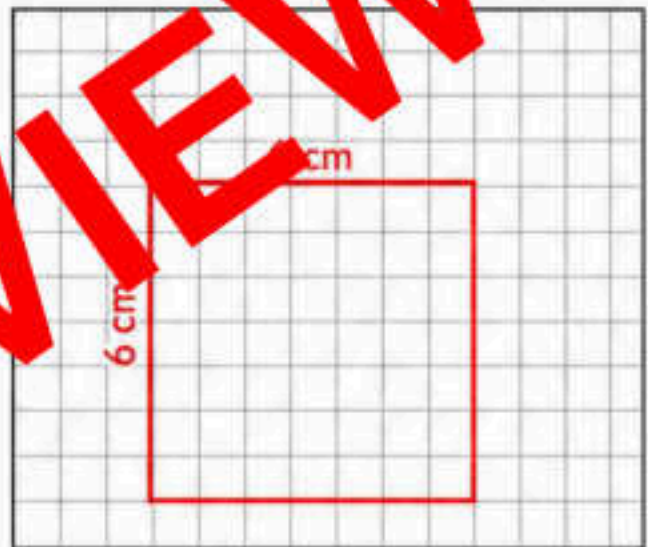
Length	Width	Area	Perimeter
10 cm	4 cm	40 cm ²	28 cm
8 cm	6 cm	48 cm ²	28 cm
12 cm	3 cm	36 cm ²	30 cm
7 cm	7 cm	49 cm ²	28 cm

2. Draw two different rectangles with an area of 36 cm². Label each rectangle and find its perimeter.



Rectangle: 4 cm × 9 cm

Perimeter: 26 cm



Rectangle: 6 cm × 6 cm

Perimeter: 24 cm

3. Which rectangle in the table has the greatest area? Explain.

The 7 cm × 7 cm rectangle has the greatest area: 49 cm².

4. Does equal perimeter always mean equal area? Use evidence from the table.

No. The 10 × 4, 8 × 6 and 7 × 7 rectangles all have perimeter 28 cm,
but their areas are 40 cm², 48 cm² and 49 cm².

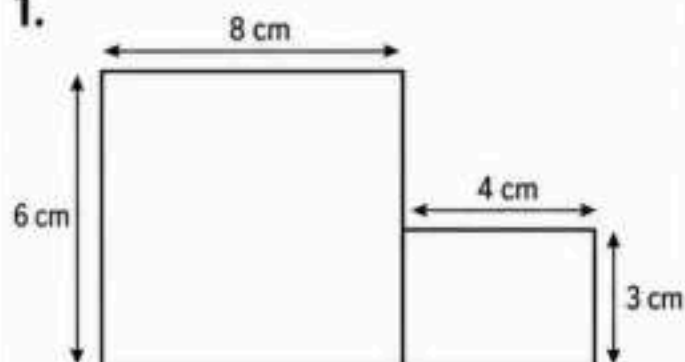
COMPOSITE RECTANGLES - CORE

Name: _____

Date: _____

Find the area of each composite shape. Show how you decomposed or subtracted.

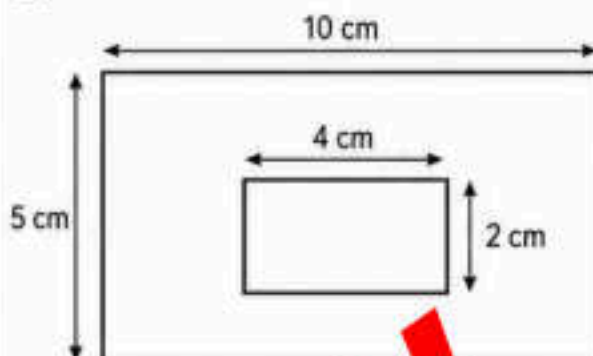
1.



Working:

Area: _____

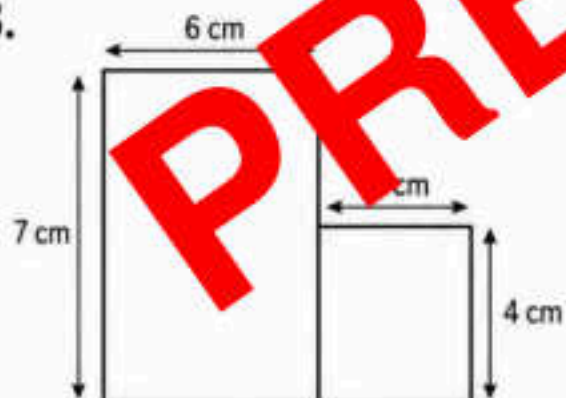
2.



Working:

Area: _____

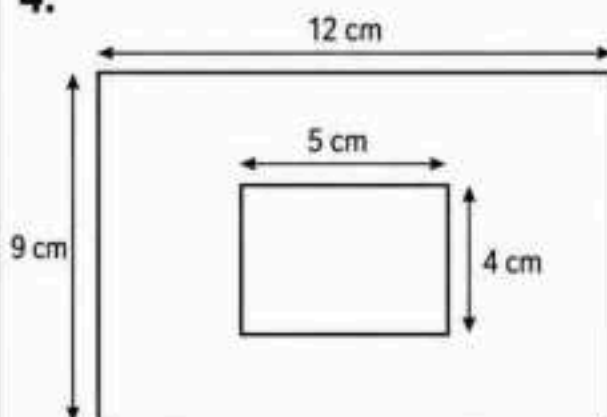
3.



Working:

Area: _____

4.



Working:

Area: _____

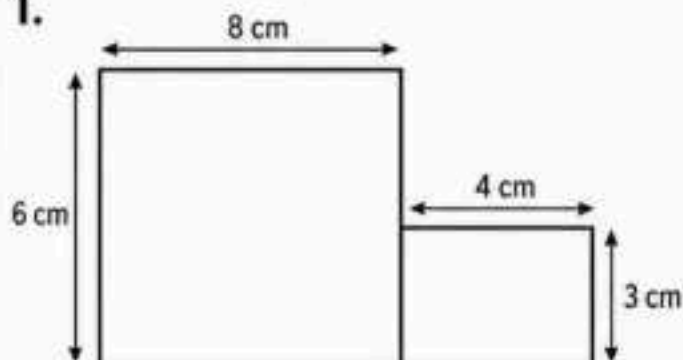
COMPOSITE RECTANGLES - CORE

Name: ANSWERS

Date: _____

Find the area of each composite shape. Show how you decomposed or subtracted.

1.

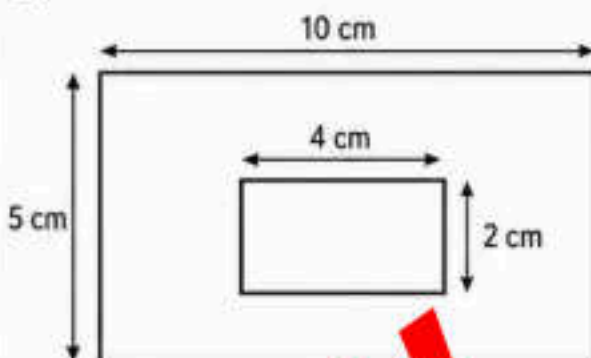


Working:

$$8 \times 6 + 4 \times 3 =$$
$$48 + 12 = 60 \text{ cm}^2$$

Area: 60 cm²

2.

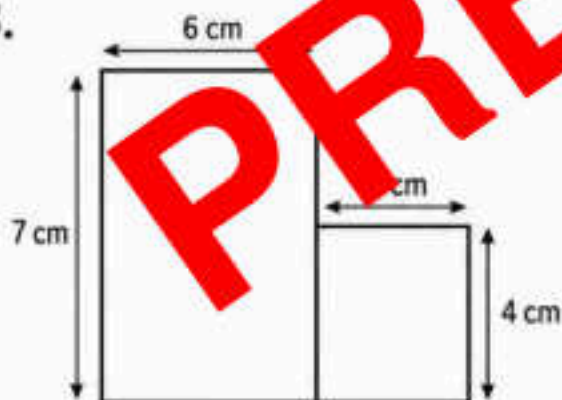


Working:

$$10 \times 5 - 4 \times 2 =$$
$$50 - 8 = 42 \text{ cm}^2$$

Area: 42 cm²

3.

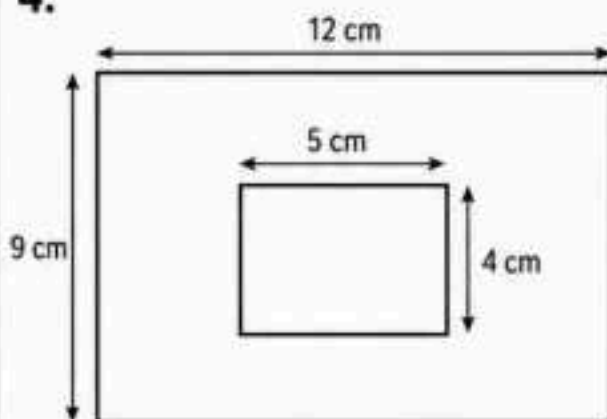


Working:

$$6 \times 7 + 3 \times 4 =$$
$$42 + 12 = 54 \text{ cm}^2$$

Area: 54 cm²

4.



Working:

$$12 \times 9 - 5 \times 4 =$$
$$108 - 20 = 88 \text{ cm}^2$$

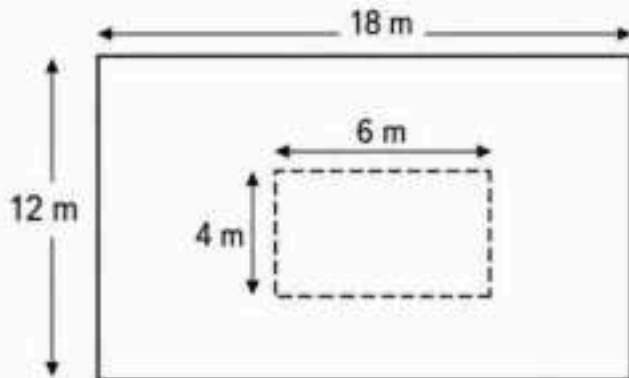
Area: 88 cm²

COMPOSITE RECTANGLES - EXTENSION

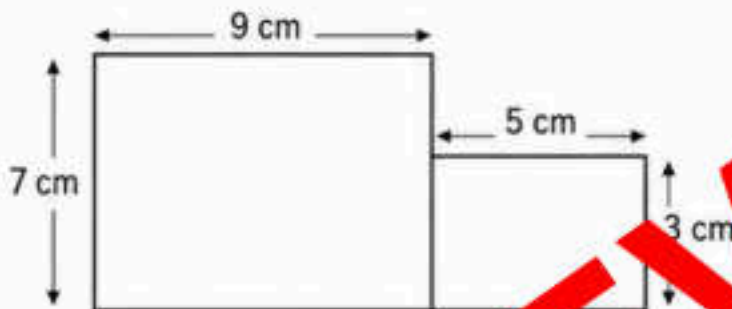
Name: _____

Date: _____

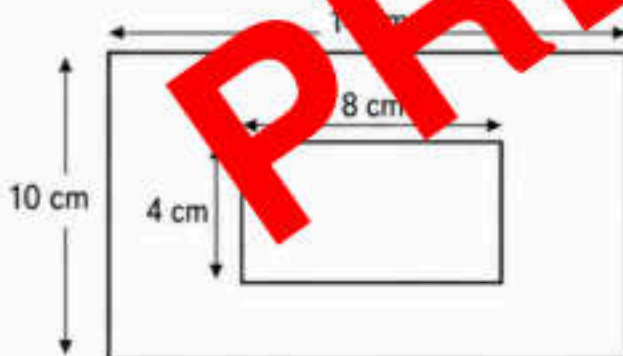
1. A courtyard is 18 m by 12 m. A 6 m by 4 m garden is removed. Find the remaining area.



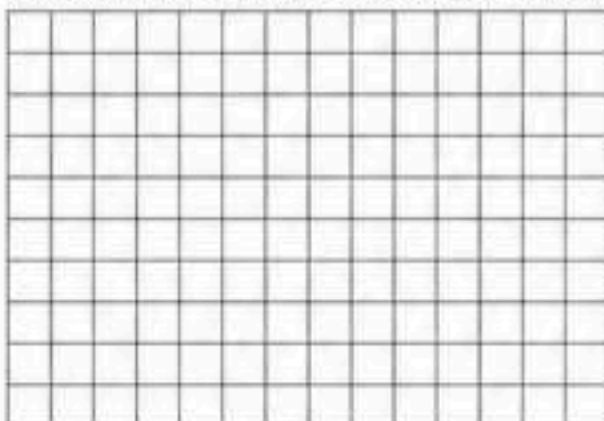
2. Two non-overlapping rectangles, 9 cm by 7 cm and 5 cm by 3 cm, are joined. Find the total area.



3. A frame is 14 cm by 10 cm with a central opening 8 cm by 4 cm. Find the frame area.



4. Create and label a composite shape with an area of 96 square units. Show your calculation.

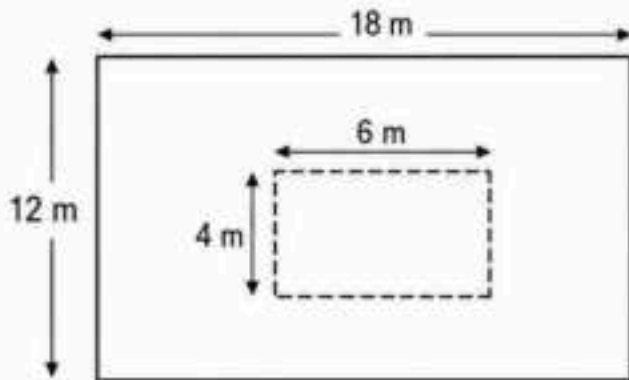


COMPOSITE RECTANGLES - EXTENSION

Name: **ANSWERS**

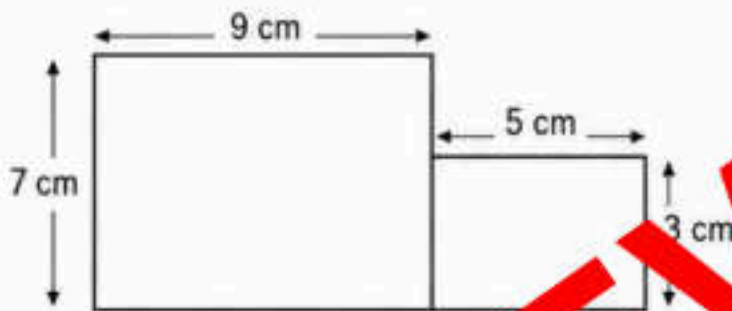
Date: _____

1. A courtyard is 18 m by 12 m. A 6 m by 4 m garden is removed. Find the remaining area.



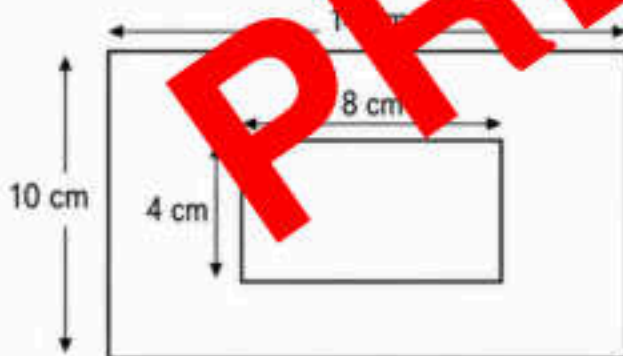
$$18 \times 12 - 6 \times 4 = 216 - 24 = 192 \text{ m}^2$$

2. Two non-overlapping rectangles, 9 cm by 7 cm and 5 cm by 3 cm, are joined. Find the total area.



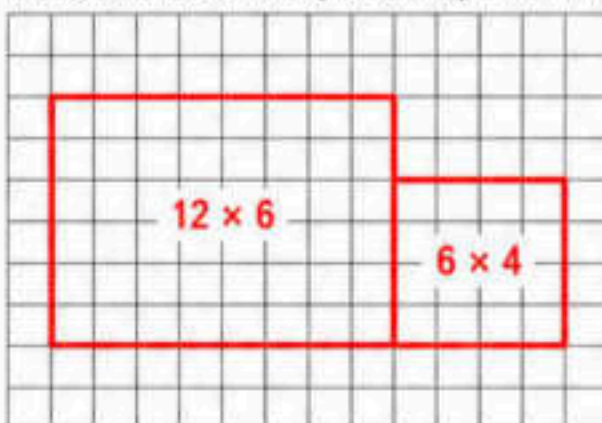
$$9 \times 7 + 5 \times 3 = 63 + 15 = 78 \text{ cm}^2$$

3. A frame is 14 cm by 10 cm with a central opening 8 cm by 4 cm. Find the frame area.



$$14 \times 10 - 8 \times 4 = 140 - 32 = 108 \text{ cm}^2$$

4. Create and label a composite shape with an area of 96 square units. Show your calculation.



$$12 \times 6 + 6 \times 4 = 72 + 24 = 96 \text{ square units.}$$

HECTARES

$$1 \text{ ha} = 10\,000 \text{ m}^2$$

Name: _____

Date: _____

1. Choose the most suitable unit: m^2 , ha or km^2 .

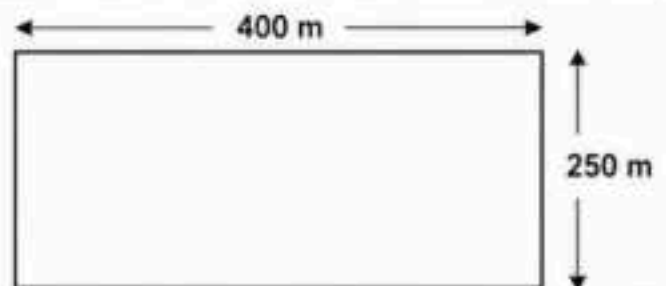
classroom	
farm paddock	
state	

2. Convert 20 000 m^2 to hectares.

3. Convert 35 000 m^2 to hectares.

4. Convert 2.5 ha to square metres.

5. A rectangular field is 400 m by 250 m.
Find its area in hectares.



6. Explain why hectares are useful for measuring large areas of land.

HECTARES

$$1 \text{ ha} = 10\,000 \text{ m}^2$$

Name: _____ **ANSWERS** _____

Date: _____

1. Choose the most suitable unit: m^2 , ha or km^2 .

classroom	m^2
farm paddock	ha
state	km^2

2. Convert 20 000 m^2 to hectares.

$$20\,000 \div 10\,000 = 2 \text{ ha}$$

3. Convert 35 000 m^2 to hectares.

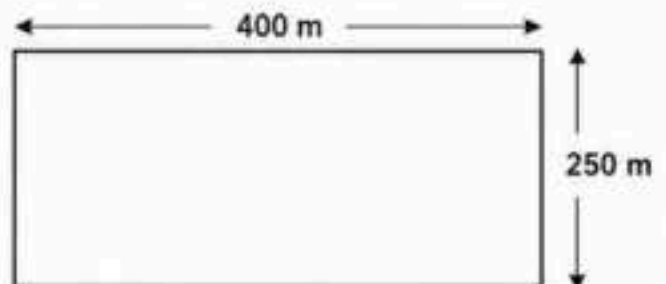
$$35\,000 \div 10\,000 = 3.5 \text{ ha}$$

4. Convert 2.5 ha to square metres.

$$2.5 \times 10\,000 = 25\,000 \text{ m}^2$$

5. A rectangular field is 400 m by 250 m.
Find its area in hectares.

$$400 \times 250 = 100\,000 \text{ m}^2 = 10 \text{ ha}$$



6. Explain why hectares are useful for measuring large areas of land.

Hectares avoid unwieldy square-metre numbers when measuring large areas of land.

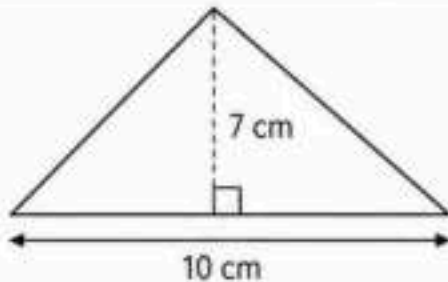
TRIANGLE AREA - YEAR 6 EXTENSION

Name: _____

Date: _____

REMINDER:
 $A = (b \times h) \div 2$

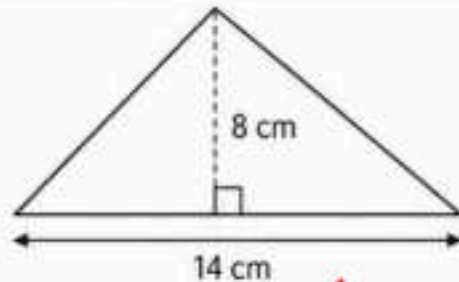
1.



Working:

Area: _____

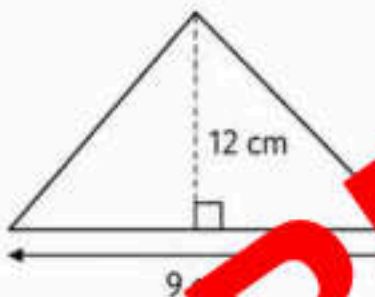
2.



Working:

Area: _____

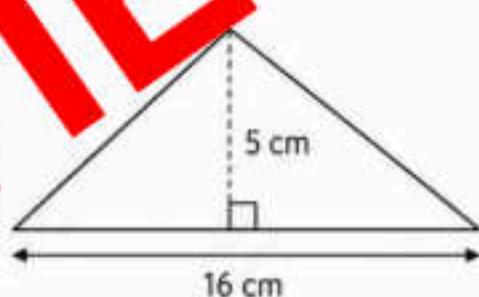
3.



Working:

Area: _____

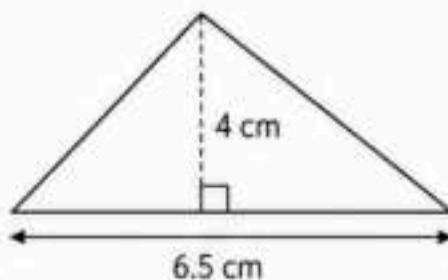
4.



Working:

Area: _____

5.



Working:

Area: _____

6. A triangle has an area of 45 cm^2 and a base of 10 cm.

Find its perpendicular height.

Working:

Height: _____

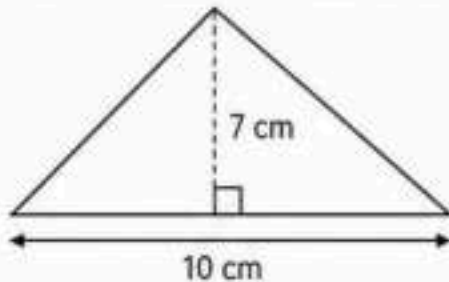
TRIANGLE AREA - YEAR 6 EXTENSION

Name: **ANSWERS**

Date: _____

REMINDER:
 $A = (b \times h) \div 2$

1.

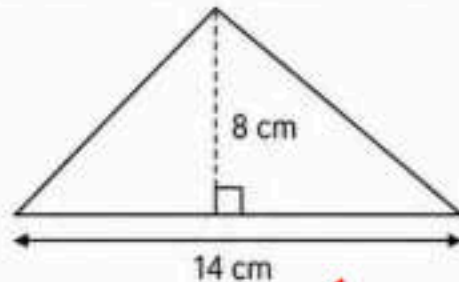


Working:

$$(10 \times 7) \div 2 = 35 \text{ cm}^2$$

Area: **35 cm²**

2.

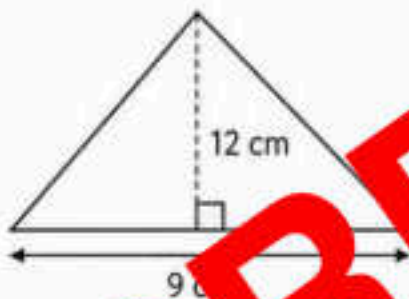


Working:

$$(14 \times 8) \div 2 = 56 \text{ cm}^2$$

Area: **56 cm²**

3.

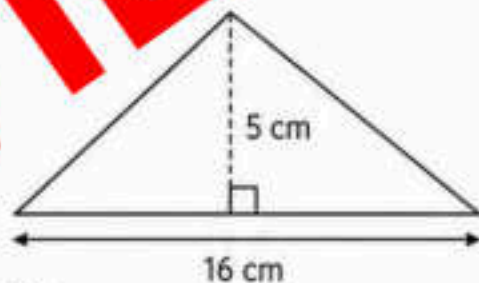


Working:

$$(9 \times 12) \div 2 = 54 \text{ cm}^2$$

Area: **54 cm²**

4.

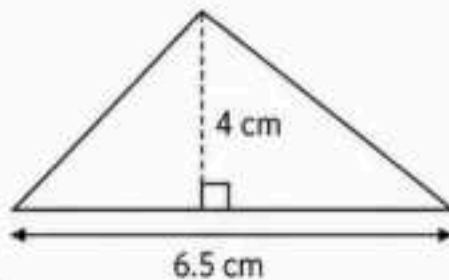


Working:

$$(16 \times 5) \div 2 = 40 \text{ cm}^2$$

Area: **40 cm²**

5.



Working:

$$(6.5 \times 4) \div 2 = 13 \text{ cm}^2$$

Area: **13 cm²**

6. A triangle has an area of 45 cm² and a base of 10 cm.

Find its perpendicular height.

Working:

$$45 \times 2 \div 10 = 9 \text{ cm}$$

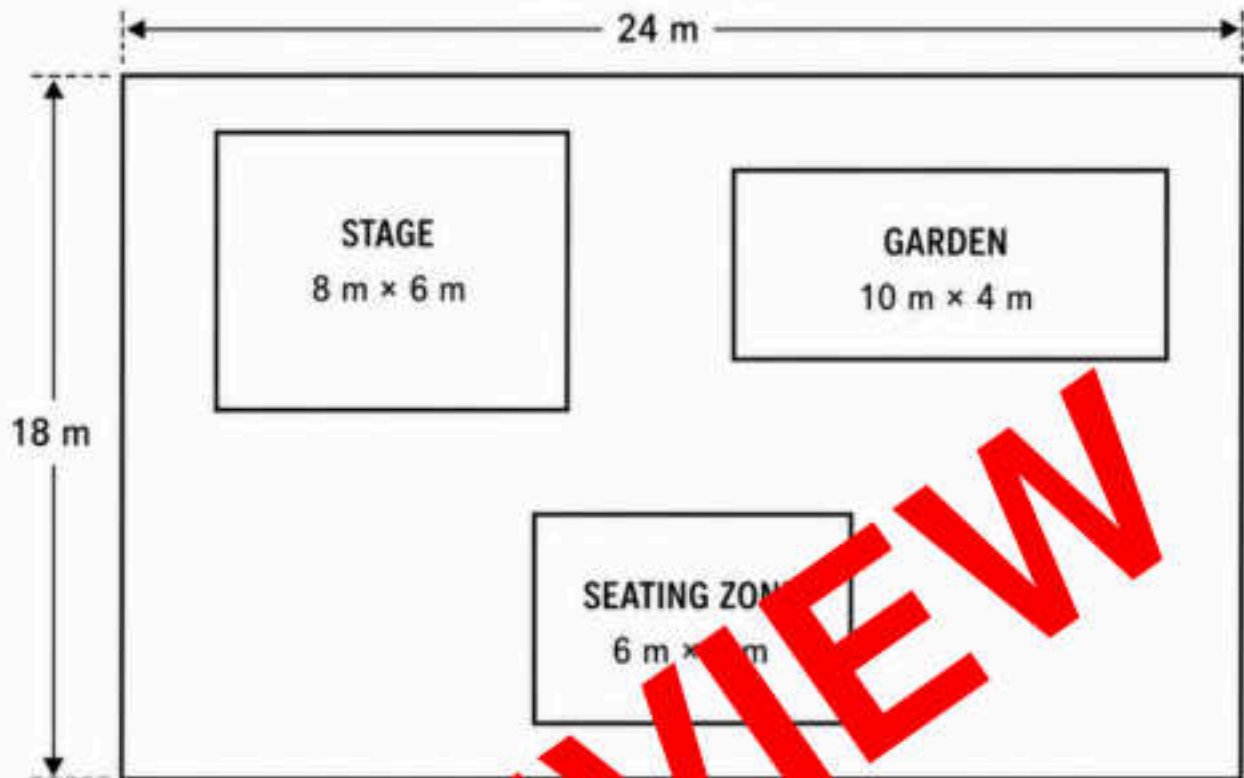
Height: **9 cm**

SCHOOL COURTYARD AREA AUDIT - ASSESSMENT

Name: _____

Date: _____

COURTYARD PLAN



1. Find the area of the whole courtyard.

2. Find the total area occupied by the stage, garden and seating zone.

3. Find the remaining open area.

4. Find the perimeter of the whole courtyard.

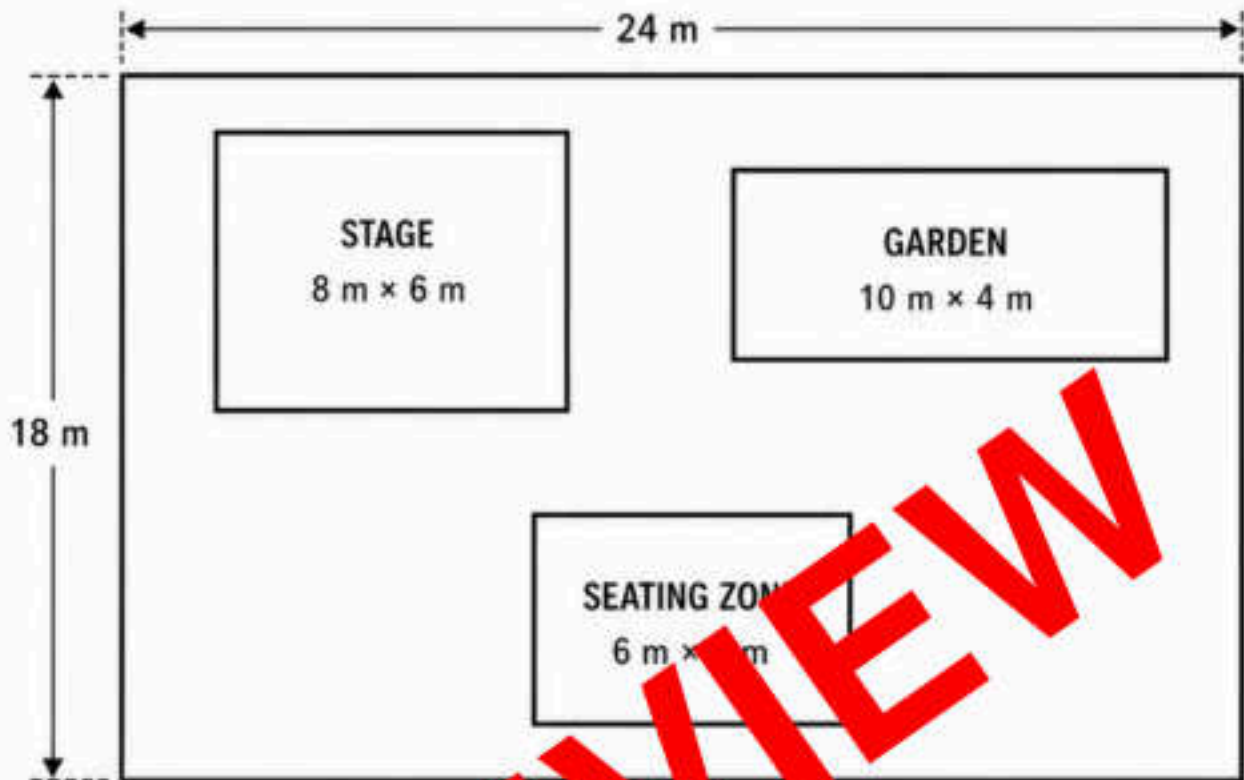
5. Check that every answer includes the correct unit. Show all working.

SCHOOL COURTYARD AREA AUDIT - ASSESSMENT

Name: **ANSWERS**

Date: _____

COURTYARD PLAN



1. Find the area of the whole courtyard.

$$24 \times 18 = 432 \text{ m}^2$$

2. Find the total area occupied by the stage, garden and seating zone.

$$8 \times 6 + 10 \times 4 + 6 \times 5 = 48 + 40 + 30 = 118 \text{ m}^2$$

3. Find the remaining open area.

$$432 - 118 = 314 \text{ m}^2$$

4. Find the perimeter of the whole courtyard.

$$2 \times (24 + 18) = 84 \text{ m}$$

5. Check that every answer includes the correct unit. Show all working.

Units checked: area in m²; perimeter in m.

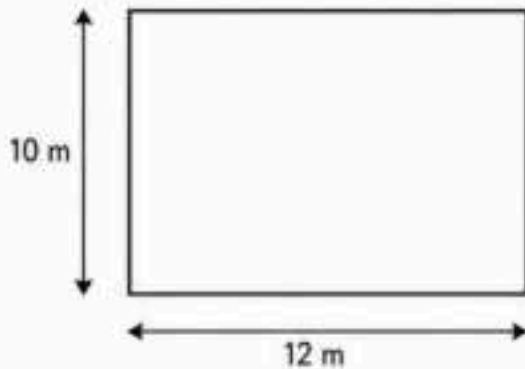
COURTYARD DESIGN CHALLENGE - ASSESSMENT

The courtyard has 314 m^2 of open area.

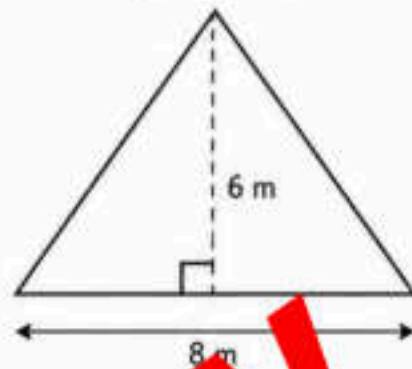
Name: _____

Date: _____

Rectangular activity zone



Triangular shade zone



1. A rectangular activity zone measures 12 m by 10 m. Find its area.

2. A triangular shade zone has a base of 8 m and a perpendicular height of 6 m. Find its area.

3. Find the combined area of both zones and the open area that remains.

4. What percent of the 314 m^2 open area is used by the two zones? Round to the nearest whole percent.

5. Explain one change that keeps the rectangle's area the same but changes its perimeter.

Planning space (optional)

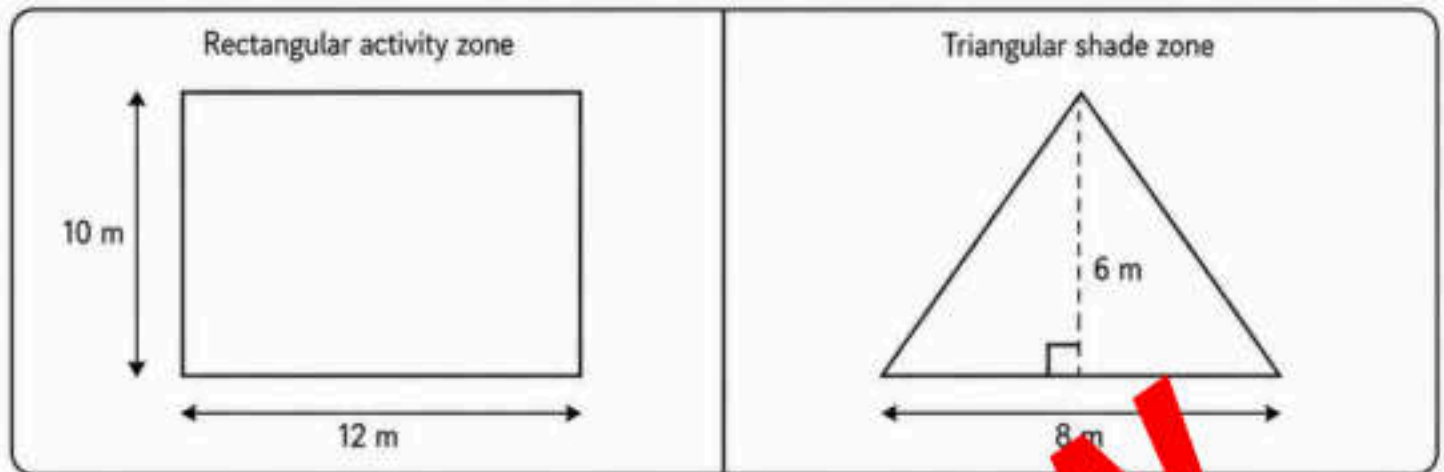


COURTYARD DESIGN CHALLENGE - ASSESSMENT

The courtyard has 314 m² of open area.

Name: **ANSWERS**

Date: _____



1. A rectangular activity zone measures 12 m by 10 m. Find its area.

$$12 \times 10 = 120 \text{ m}^2$$

2. A triangular shade zone has a base of 8 m and a perpendicular height of 6 m. Find its area.

$$(8 \times 6) \div 2 = 24 \text{ m}^2$$

3. Find the combined area of both zones and the open area that remains.

$$120 + 24 = 144 \text{ m}^2; 314 - 144 = 170 \text{ m}^2 \text{ remains}$$

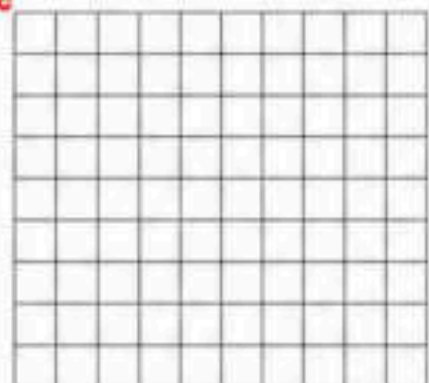
4. What percent of the 314 m² open area is used by the two zones? Round to the nearest whole percent.

$$144 \div 314 \times 100 \approx 46\%$$

5. Explain one change that keeps the rectangle's area the same but changes its perimeter.

Change 12 m × 10 m to 15 m × 8 m. Both areas are 120 m², but the perimeters are 44 m and 46 m.

Planning space (optional)

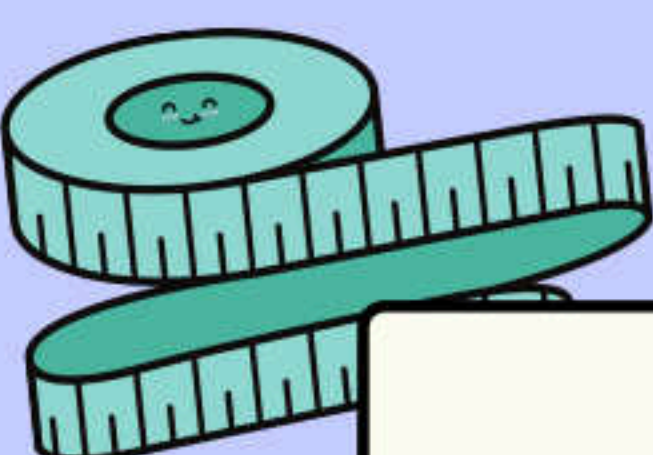


AREA YEARS 5-6 RUBRIC

CRITERIA	BEGINNING	DEVELOPING	ACHIEVING	CONFIDENT	EXCEEDING
Square units and notation	Needs support to identify square units and use notation correctly.	Sometimes uses square units and notation but with errors or inconsistency.	Correctly uses square units and notation in familiar situations.	Accurately applies square units and notation in multi-step tasks and explains thinking.	Flexibly uses square units and notation in varied contexts with justified reasoning.
Rectangles and squares	Needs support to find area of rectangles and squares.	Finds area of rectangles and squares using partial calculations or formulas with errors or inconsistency.	Correctly finds area of rectangles and squares using appropriate strategies.	Accurately finds area of rectangles and squares in multi-step problems and explains method.	Flexibly and efficiently applies strategies to solve varied problems with justification.
Area and perimeter	Needs support to find area or perimeter.	Finds area or perimeter with errors or inconsistency.	Accurately finds area and perimeter in familiar problems.	Accurately finds area and perimeter in multi-step problems and explains reasoning.	Flexibly applies understanding of area and perimeter with efficient, justified solutions.
Composite rectangles	Needs support to decompose or find area of composite rectangles.	Decomposes with partial success; calculations may be incorrect.	Correctly decomposes and finds area of composite rectangles in familiar tasks.	Accurately solves multi-part composite rectangle problems and explains strategy.	Flexibly chooses efficient strategies to solve complex composite rectangle problems with justification.
Hectares and real-world problems	Needs support to use hectares or solve real-world problems.	Attempts problems but with limited understanding or errors.	Understands and solves real-world problems involving hectares accurately.	Accurately solves multi-step real-world problems involving hectares and explains reasoning.	Flexibly applies concepts to complex real-world problems with efficient, justified solutions.
Triangle area (Year 6 extension)	Needs support to find the area of triangles.	Finds triangle area with partial success; errors with formula or calculations.	Correctly finds area of triangles using appropriate formula in familiar tasks.	Accurately solves multi-step triangle area problems and explains thinking.	Flexibly applies triangle area in varied contexts with efficient, justified solutions.
Reasoning and communication	Needs support to explain thinking or communicate mathematics.	Provides explanations that are limited, unclear or incomplete.	Clearly explains thinking and uses mathematical language appropriately.	Explains reasoning with logical steps and uses mathematical language accurately.	Uses precise mathematical language to justify solutions and make connections.

Teacher feedback: _____

Next step: _____



Area Years 5-6

PREVIEW

Learning Goals

I can measure and calculate area in square units.

I can choose efficient strategies to find the area of rectangles, composite shapes and triangles.

I can explain the difference between area and perimeter.



What Area Measures

Area is the amount of surface inside a two-dimensional shape.
We cover the surface with equal-sized square units and count how many fit.



Square Units

Small surfaces may use m^2 or cm^2 .

Rooms and playgrounds often use m^2 .

Large areas may use hectares (ha) or km^2 .



Count Square Units

Count every complete square once.

Combine partial squares only when they make a whole square.

Show how many squared units with the answer.



Multiply Rows and Columns

A rectangular array has equal rows and columns.

Instead of counting one by one multiply: rows $\times$ columns.

Example. rows $\times$ 7 columns = 28 square units.



Rectangle Area

Area = length $\times$ width

Example: $9\text{ cm} \times 6\text{ cm} = 54\text{ cm}^2$.

The two dimensions must use the same unit before multiplying.



Square Area

A square has four equal sides.

Area = side $\times$ side

Example: $11\text{ m} \times 11\text{ m} = 121\text{ m}^2$.



Find a Missing Dimension

If area and one side are known, find the other.

Missing width = area $\div$ length

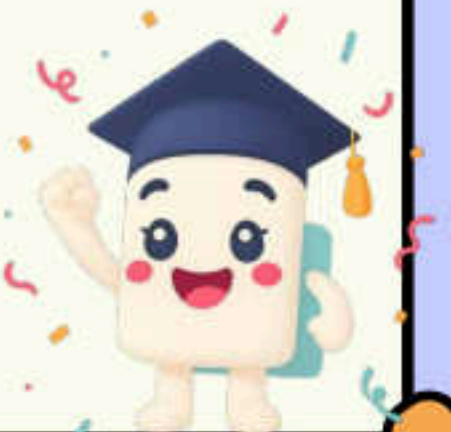
Example: $72 \text{ cm}^2 \div 9 \text{ cm} = 8 \text{ cm}$.



Area and Perimeter

Area measures the space inside a shape and uses square units.

Perimeter measures the distance around a shape and uses linear units.



Same Area, Different Perimeter

A $12\text{ m} \times 4\text{ m}$ rectangle and an $8\text{ m} \times 6\text{ m}$ rectangle both have area 48 m^2 .
Their perimeters are 32 m and 28 m , so equal area does not guarantee equal perimeter.



Same Perimeter, Different Area

A $10\text{ m} \times 2\text{ m}$ rectangle and a $7\text{ m} \times 5\text{ m}$ rectangle both have perimeter

24

The areas are 20 m^2 and 35 m^2 .



Composite Rectangles

A composite shape can be split into non-overlapping rectangles.
Mark each part, find each rectangle's area, then add the parts.



Add the Parts

Part A: $8\text{ m} \times 5\text{ m} = 40\text{ m}^2$

Part B: $4\text{ m} \times 3\text{ m} = 12\text{ m}^2$

Total area = $40 + 12 = 52\text{ m}^2$.



Subtract a Cut-Out

Start with the area of the large outer rectangle.

Subtract the missing rectangle.

Example $12 \times 9 - 4 \times 3 = 108 - 12 = 96 \text{ m}^2$.



Check Composite Dimensions

Trace each straight edge and label its length.

Use subtraction to find missing sides.

Check that parts do not overlap and that no region is missed.



What Is a Hectare?

One hectare is the area of a 100 m by 100 m square.

$$1 \text{ ha} = 10,000 \text{ m}^2.$$

Hectares are used for parks, farms and large school sites.



Convert m^2 and ha

Square metres to hectares: divide by 10 000.

Hectares to square metres: multiply by 10 000.

Example: $25\,000\text{ m}^2 = 2.5\text{ ha}$.



Hectare Example

A sports field is 200 m long and 75 m wide.

$$\text{Area} = 200 \times 75 = 15\,000 \text{ m}^2.$$

$$15\,000 \div 10\,000 = 1.5 \text{ ha.}$$



Triangle Area

Two matching triangles can form a rectangle or a parallelogram.

A triangle therefore uses half the matching base $\times$ height area.

$$\text{Area} = (\text{base} \times \text{perpendicular height}) \div 2.$$



Base and Perpendicular Height

The base can be any side chosen for measurement.

The height must meet the base at a right angle.

A sloping side is not automatically the perpendicular height.



Triangle Worked Example

Base = 14 cm and perpendicular height = 8 cm.

$$\text{Area} = (14 \times 8) \div 2$$

$$\text{Area} = 112 \div 2 = 56 \text{ cm}^2.$$



Choose a Strategy

Grid or array: count or multiply quotients.

Rectangle or square: use side lengths.

Composites: add parts or subtract a cut-out.

Triangle: $\frac{1}{2} \times \text{base} \times \text{perpendicular height}$.



Courtyard Problem

A $24\text{ m} \times 18\text{ m}$ courtyard has a $10\text{ m} \times 4\text{ m}$ garden.

Whole area = 432 m^2 , garden area = 40 m^2 .

Area outside the garden = 392 m^2 .



Review and Self-Check

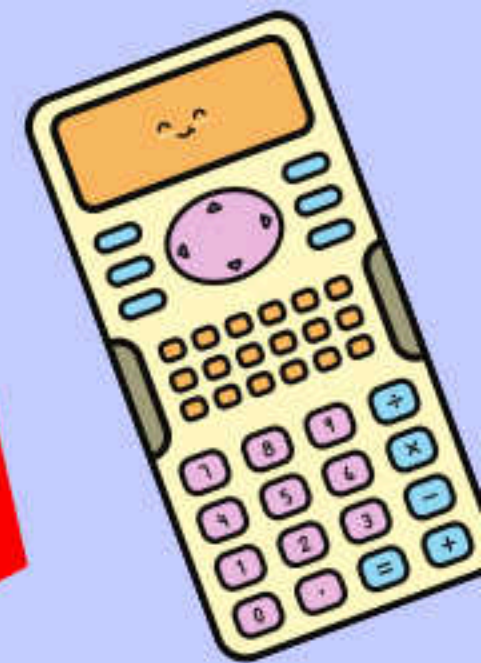
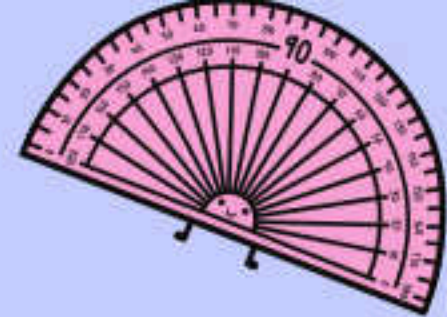
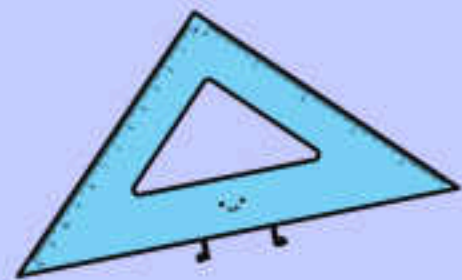
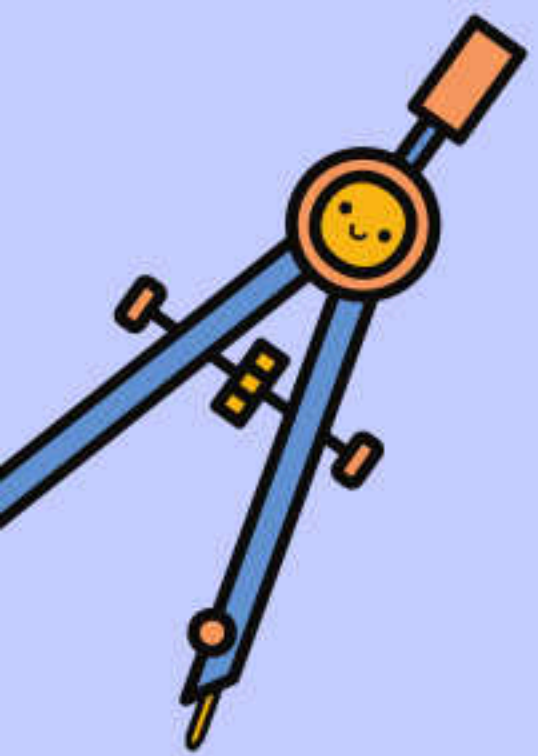
Have I used the correct formula?

Are my dimensions in the same unit?

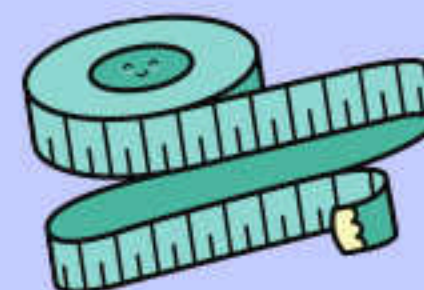
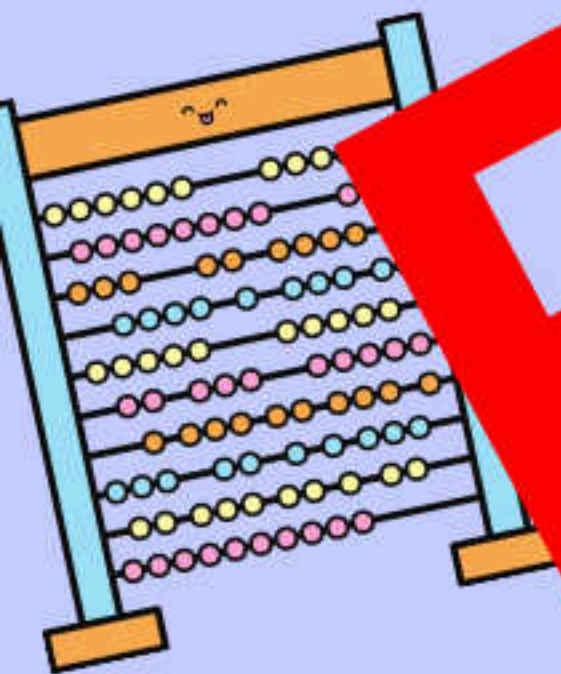
Do I label area with square units?

Does my answer make sense for the shape?





Well Done!



Area Quiz

Years 5-6

Question 1 — Units

Which unit is most suitable for the area of a classroom floor?

A. cm B. cm^2 C. m D. m^2



Answer 1

A classroom floor is a surface measured in square metres.



Question 2 — Rectangle

A rectangle measures 9 cm by 7 cm.
What is its area?



Answer 2

6 cm

$$A = 9 \times 7 = 63 \text{ cm}^2.$$



Question 3 — True or False

Shapes with equal perimeter always have equal area.
True or false?



Answer 3

Shapes can have the same perimeter while enclosing different areas.



Question 4 — Square

A square has side length of 12 m. What is its area?

A. 24 m B. 144 m² C. 144 m² D. 288 m²



Answer 4

C. 144 m^2

$$A = 12 \times 12 = 144 \text{ m}^2.$$



Question 5 — Missing Width

A rectangle has an area of 72 cm^2 and a length of 9 cm .
Find its width.



Answer 5

Width = area $\div$ length $72 \div 9 = 8$ cm.



Question 6 — Composite Shapes

Two non-overlapping rectangles measure $4\text{ m} \times 3\text{ m}$ and $3\text{ m} \times 2\text{ m}$.

What is their combined area?

- A. 24 m^2 B. 26 m^2 C. 30 m^2 D. 36 m^2



Answer 6

C. 30 m

$$4 \times 3 \times 2 = 24 \quad 6 = 30 \text{ m}^2.$$



Question 7 — True or False

10,000 m² is equal to 1 hectare.
True or False?



Answer 7

A hectare is a 100 m square, so $1 \text{ ha} = 10\,000 \text{ m}^2$.



Question 8 — Triangles

A triangle has a base of 14 cm and a perpendicular height of 8 cm.
Find its area.



Answer 8

5 cm

$$(4 \times 8) \div 2 = 16 \text{ cm}^2.$$



Question 9 — Cost

A $5\text{ m} \times 3\text{ m}$ rug costs $\$18$ per square metre. What is the total cost?

A. $\$90$ B. $\$180$ C. $\$270$ D. $\$360$



Answer q

Ans q = 15 m^2 ; cost = $15 \times \$18 = \$270$.



Question 10 — Compare Measures

A rectangle measures 8 cm by 6 cm.
Find its area and perimeter.

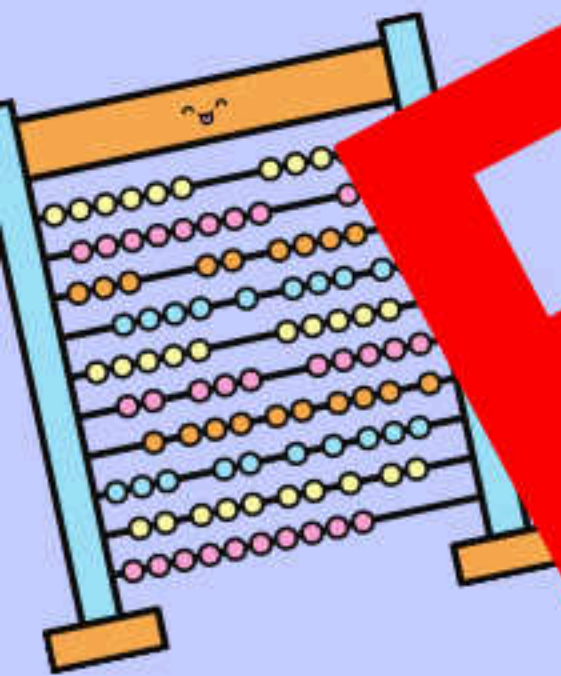
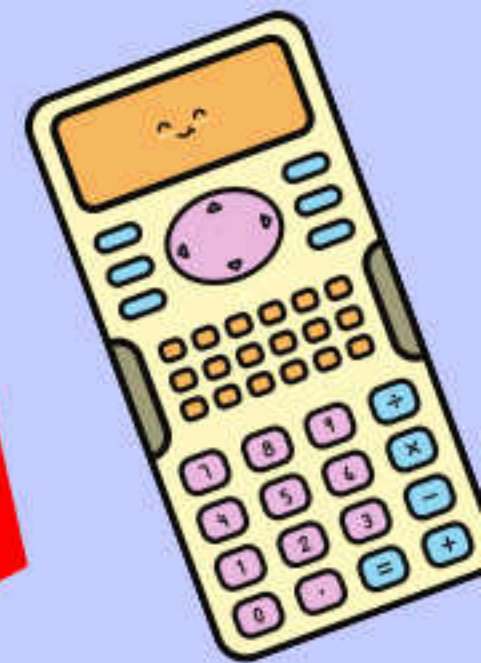
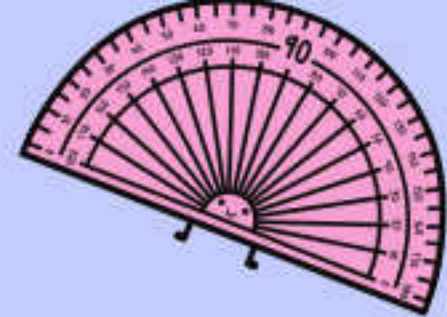
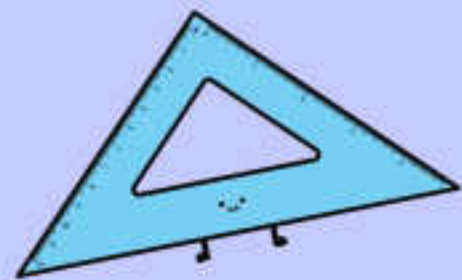
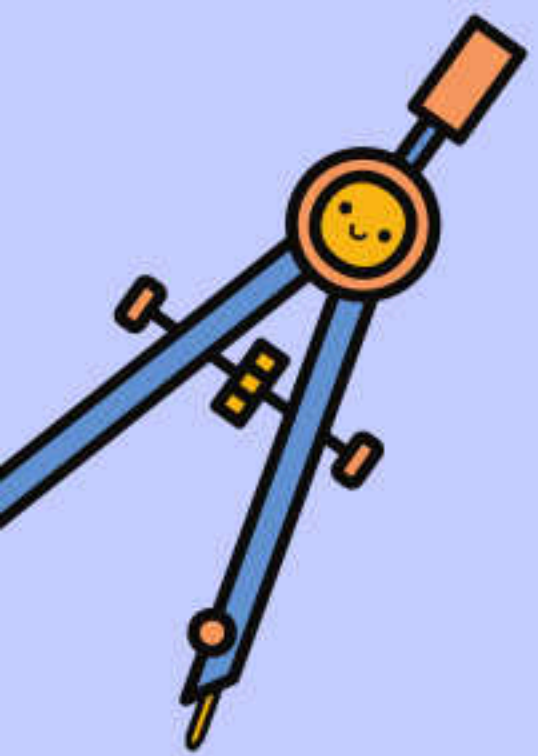


Answer 10

Area = 48 cm², Perimeter = 28 cm.

Area = 48 cm². Perimeter: $2 \times (8 + 6)$.





Well Done!