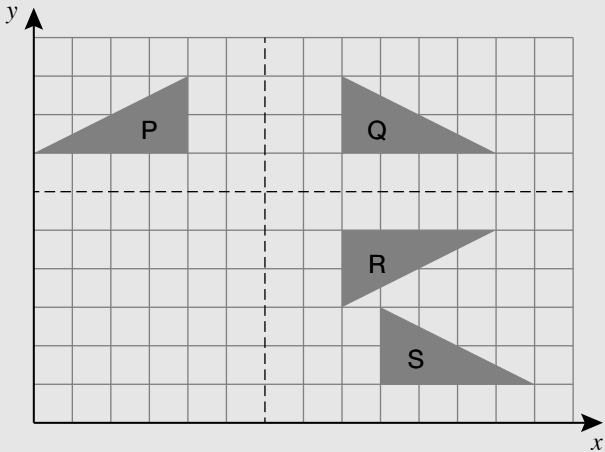


Geometry: transformations and properties of rectangles



Helpful Hint



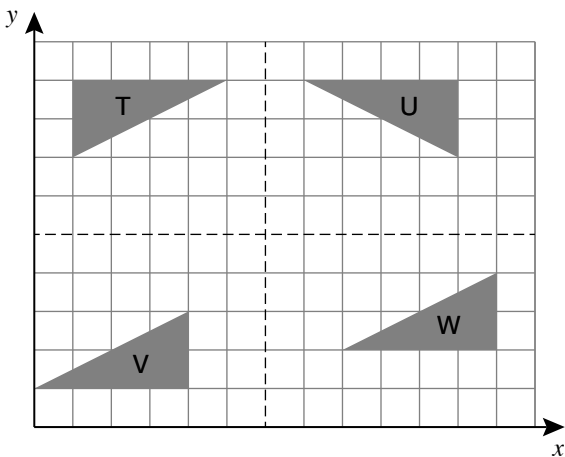
Triangle P has been reflected in the vertical dashed line to give Q.

Triangle Q has been reflected in the horizontal dashed line to give R.

Triangle Q has been translated 1 right and 6 down to give S.

Translations and **reflections** are both types of **transformations**.

Ⓐ Use this diagram to answer questions 1 and 2.



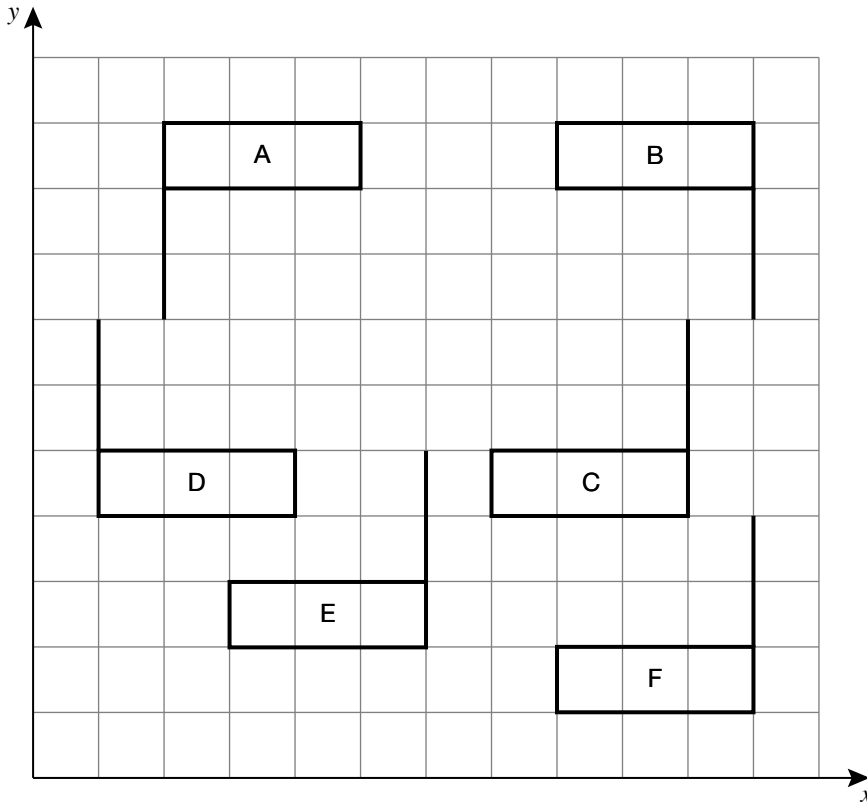
1 Describe the **transformation** to get from T to U.

_____ [1]

2 Describe the **transformation** to get from V to W.

_____ [1]

Use this diagram to answer questions 3 to 6.



3 Which shapes are a **reflection** of B?

_____ [1]

4 Which other two shapes are **reflections** of each other?

_____ [1]

5 Describe the **transformation** to get from F to E.

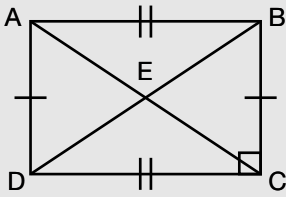
_____ [1]

6 Describe the **transformation** to get from C to F.

_____ [1]



Helpful Hint



A rectangle has four equal angles because each corner is a **right angle**.

It has two pairs of equal sides as marked above:

$AB = DC$

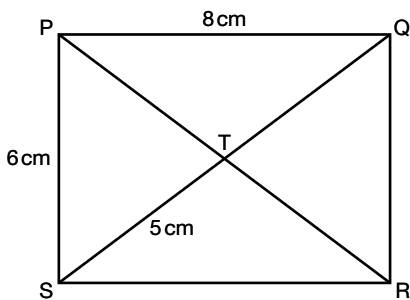
$AD = BC$

The diagonals are also equal and cut each other in half:

$AC = BD$

$AE = CE = BE = DE$

B Use this diagram to answer questions 1 to 4. Diagram not drawn to scale.



1 How long is SR?

_____ cm [1]

2 How long is QR?

_____ cm [1]

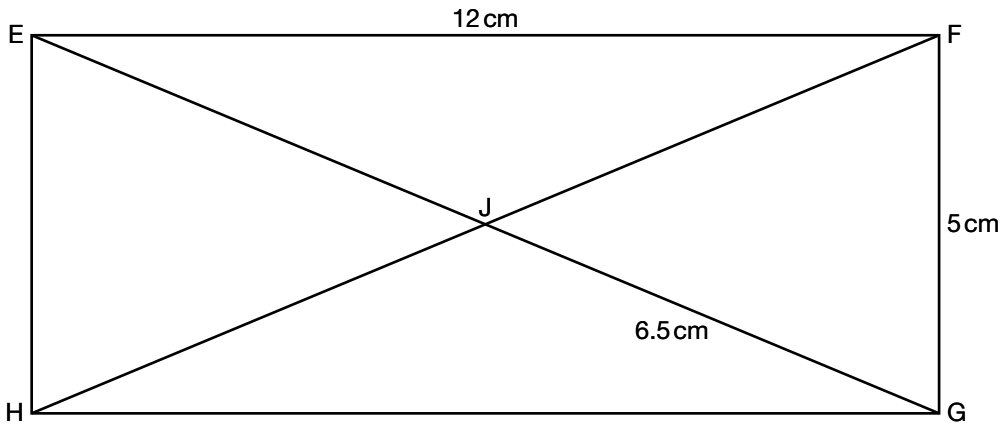
3 How long is QT?

_____ cm [1]

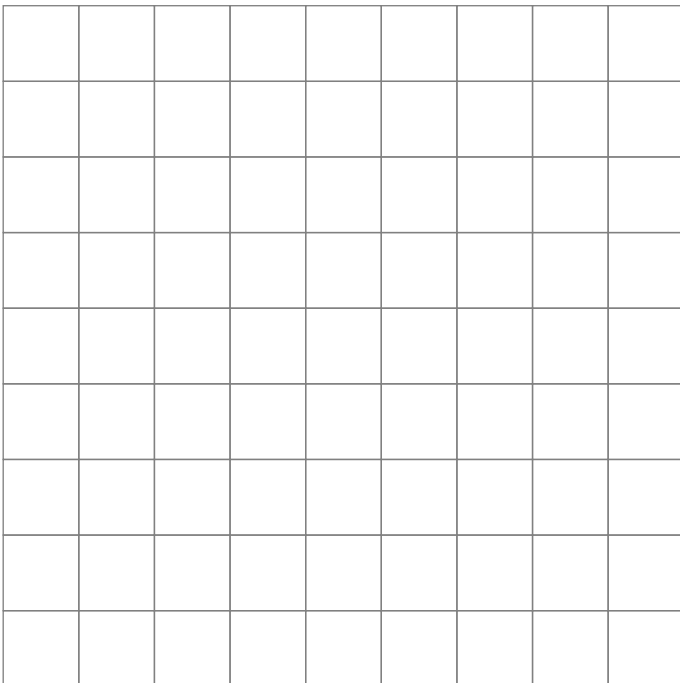
4 How long is PR?

_____ cm [1]

Use this diagram to answer questions 5 to 8.



- 5 How long is HG? _____ cm [1]
- 6 How long is EH? _____ cm [1]
- 7 How long is EJ? _____ cm [1]
- 8 How long is FH? _____ cm [1]
- 9 Draw a rectangle on the grid with length 7 cm and width 4 cm.
Correctly mark the angle at one of the corners and the sides that are equal length. [3]



- 10 How long is the diagonal to the nearest centimetre?
_____ cm [1]

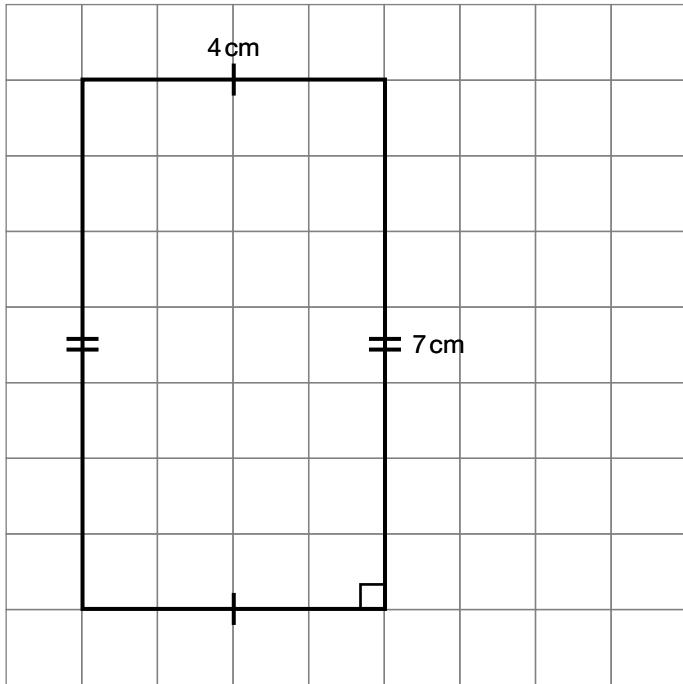
Unit 4

(A)

- 1 reflection in the vertical dashed line
- 2 translation 8 right and 1 up
- 3 A and F
- 4 C and D
- 5 translation 5 left and 1 up
- 6 translation 1 right and 3 down

(B)

- 1 8 cm
- 2 6 cm
- 3 5 cm
- 4 10 cm
- 5 12 cm
- 6 5 cm
- 7 6.5 cm
- 8 13 cm
- 9 rectangle drawn accurately



10 8 cm