

Similar Shapes

For Pearson Edexcel GCSE Mathematics (1MA1) • Foundation tier

Name _____

Total marks: **21**

Answer **all** questions in the spaces provided. Show your working: marks are given for correct method.

- 1** Ella draws a rectangle 6 cm long and 4 cm wide.
She wants to draw a larger rectangle that is mathematically similar to it.
She says,
‘If I make the length 9 cm, the width must be 7 cm.’

Is Ella correct?
Explain your answer.

(1)

(Total for Question 1 is 1 mark)

2 Here are two triangles.

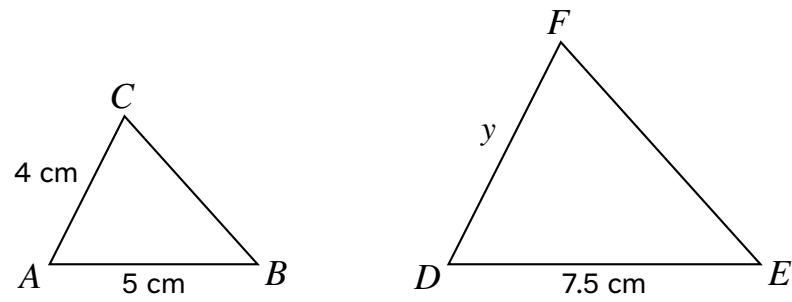


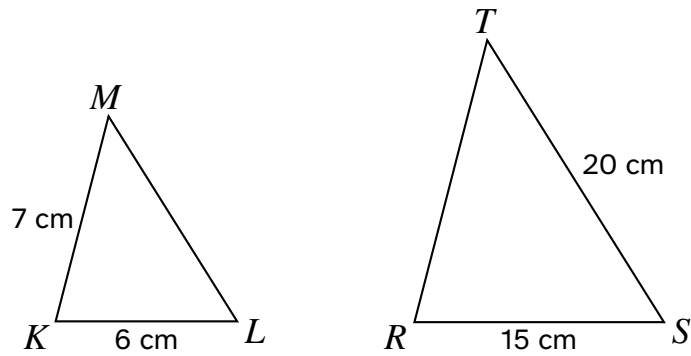
Diagram **NOT** accurately drawn

Triangles ABC and DEF are mathematically similar.
Work out the value of y .

$y = \dots\dots\dots\text{ cm}$
(2)

(Total for Question 2 is 2 marks)

- 3 Triangle KLM and triangle RST are mathematically similar.



- (a) Work out the length of RT .

..... cm
(2)

- (b) Work out the length of LM .

..... cm
(2)

(Total for Question 3 is 4 marks)

- 4 Here are two triangles, A and B .

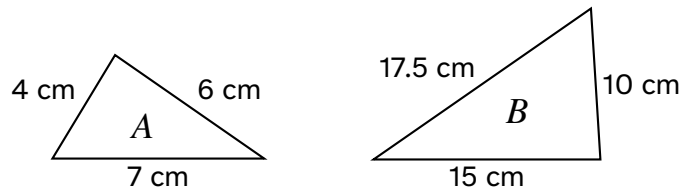


Diagram **NOT** accurately drawn

Show that triangle A and triangle B are mathematically similar.

(2)

(Total for Question 4 is 2 marks)

- 5 Triangle A has angles 40° and 75°
Triangle B has angles 65° and 75°
Show that triangles A and B are similar.

(2)

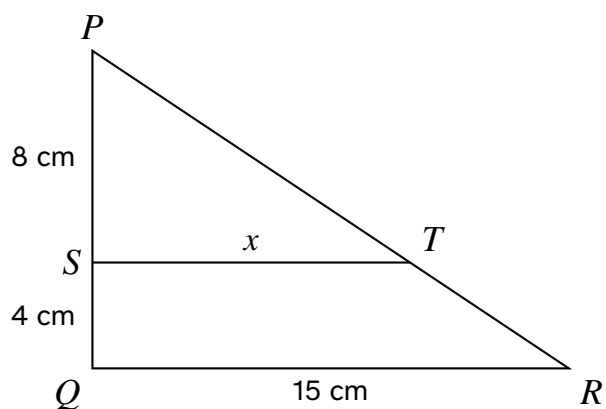
(Total for Question 5 is 2 marks)

- 6** Two cylinders are mathematically similar.
The smaller cylinder has height 8 cm and radius 3 cm.
The larger cylinder has height 20 cm.
Work out the radius of the larger cylinder.

..... cm
(2)

(Total for Question 6 is 2 marks)

- 7 ST is parallel to QR .



- (a) Work out the value of x .

$x = \dots\dots\dots$ cm
(3)

- (b) $PR = 18$ cm.
Work out the length of TR .

$\dots\dots\dots$ cm
(2)

(Total for Question 7 is 5 marks)

- 8** A model car is mathematically similar to a real car.
The model is 12 cm long and the real car is 3.6 m long.
The height of the real car is 1.5 m.
Work out the height of the model in centimetres.

..... cm
(3)

(Total for Question 8 is 3 marks)
