

Similarity

Question Paper 3

Level	IGCSE
Subject	Maths
Exam Board	Edexcel
Topic	Shape, Space and Measures
Sub Topic	Similarity
Booklet	Question Paper 3

Time Allowed: 26 minutes

Score: /21

Percentage: /100

Grade Boundaries:

A*	A	B	C	D	E	U
>85%	75%	70%	60%	55%	50%	<50%

1 The diagram shows triangle ABC .

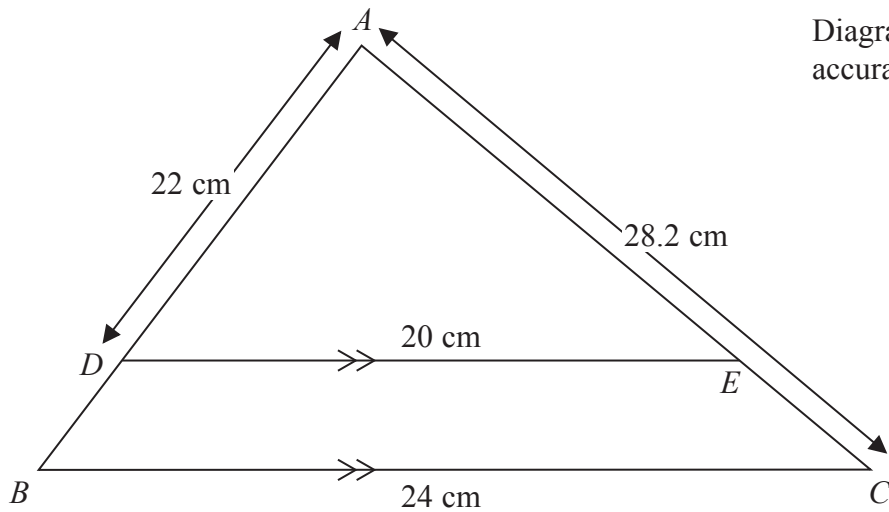


Diagram **NOT** accurately drawn

ADB and AEC are straight lines.

DE is parallel to BC .

$DE = 20$ cm, $BC = 24$ cm, $AD = 22$ cm, $AC = 28.2$ cm

(a) Work out the length of AB .

..... cm
(2)

(b) Work out the length of EC .

..... cm
(2)

(Total for Question 1 is 4 marks)

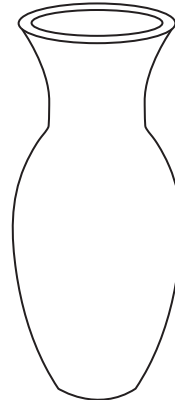
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2 The diagram shows two mathematically similar vases, **A** and **B**.



A



B

Diagram **NOT** accurately drawn

Vase **A** has a surface area of 120 cm^2

Vase **B** has a surface area of 750 cm^2 and a volume of 1600 cm^3

Work out the volume of vase **A**.

..... cm^3

(Total for Question 2 is 3 marks)

3

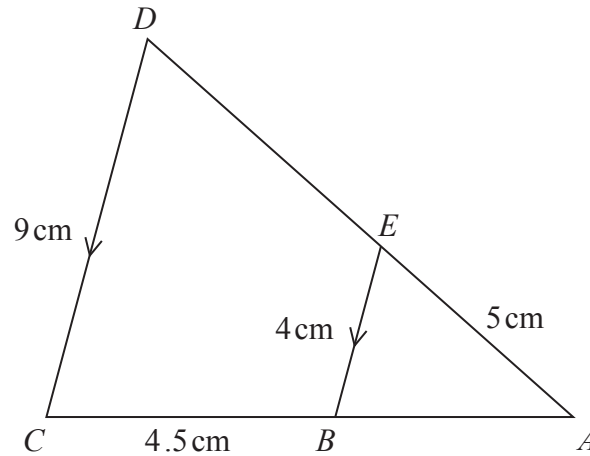


Diagram **NOT** accurately drawn

Triangle ABE is similar to triangle ACD .
 AED and ABC are straight lines.
 EB and DC are parallel.
 $AE = 5$ cm, $BC = 4.5$ cm, $BE = 4$ cm, $CD = 9$ cm

(a) Calculate the length of AD .

..... cm
 (2)

(b) Calculate the length of AB .

..... cm
 (2)

The area of quadrilateral $BCDE$ is x cm²
 The area of triangle ABE is y cm²

(c) Find an expression for y in terms of x .
 Give your answer as simply as possible.

$y =$
 (3)

(Total for Question 3 is 7 marks)

4

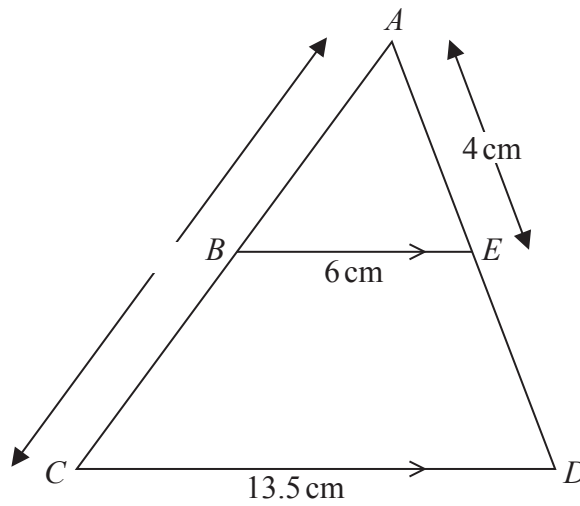


Diagram **NOT** accurately drawn

The diagram shows triangle ACD .

B is a point on AC and E is a point on AD so that BE is parallel to CD .

$$AE = 4 \text{ cm}$$

$$AC = 11.7 \text{ cm}$$

$$BE = 6 \text{ cm}$$

$$CD = 13.5 \text{ cm}$$

(a) Calculate the length of AB .

..... cm
(2)

(b) Calculate the length of ED .

..... cm
(2)

(Total for Question 4 is 4 marks)

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5 Louis makes a model of a plane.

The wingspan of the model is 50 centimetres.

The wingspan of the real plane is 80 metres.

(a) Work out the scale of the model.

Give your answer in the form 1: n

1:.....

(2)

The length of the real plane is 72 metres.

(b) Work out the length of the model.

Give your answer in centimetres.

..... centimetres

(2)

(Total for Question 5 is 4 marks)