



EXAM PAPERS PRACTICE

GCSE OCR Math J560

Similarity Length

Question Paper

*"We will help you to
achieve A Star "*



Question 1

(b) Work out the length of BC .

[2 marks]

Question 2

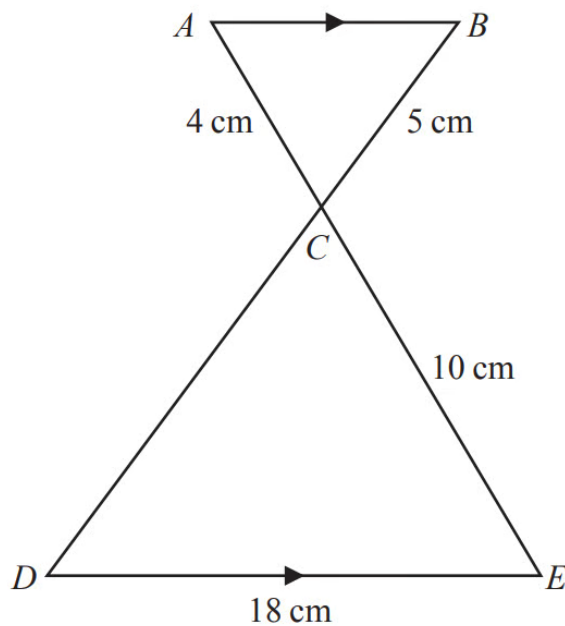


Diagram **NOT** accurately drawn

ACE and BCD are straight lines.
 AB is parallel to DE .

(a) Calculate the length of CD .

[2 marks]



Question 3

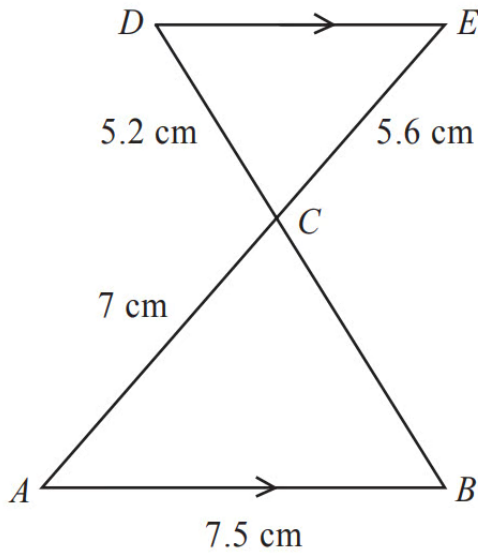


Diagram **NOT**
accurately drawn

AB is parallel to DE .

The lines AE and BD intersect at C .

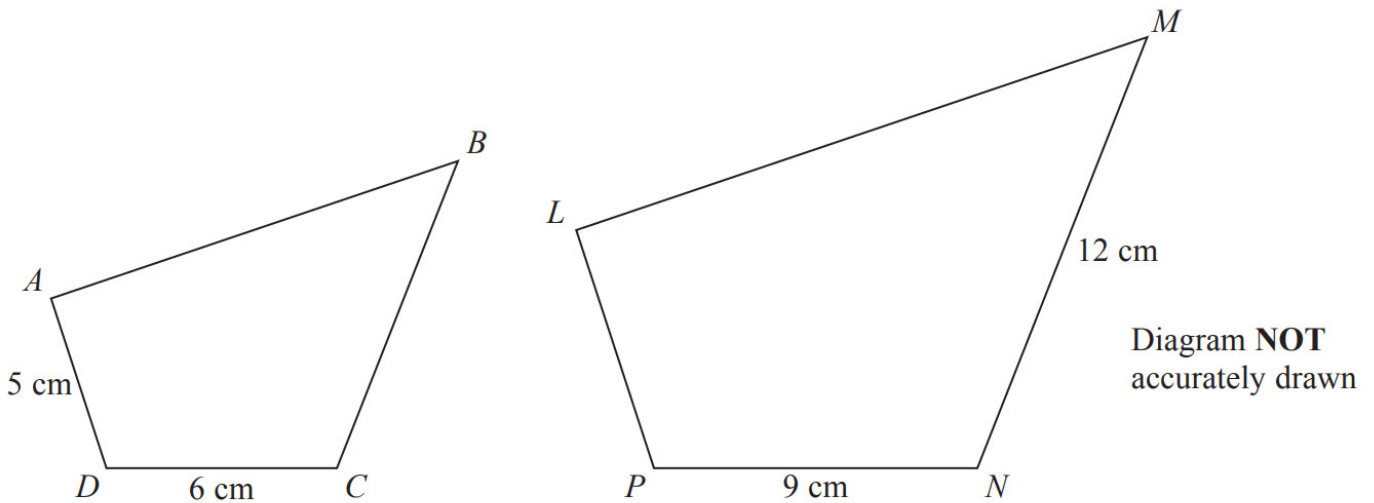
$AB = 7.5$ cm, $AC = 7$ cm, $CD = 5.2$ cm, $CE = 5.6$ cm.

(a) Calculate the length of BC .

[2 marks]



Question 4



Quadrilaterals $ABCD$ and $LMNP$ are mathematically similar.

- Angle A = angle L
- Angle B = angle M
- Angle C = angle N
- Angle D = angle P

(a) Work out the length of LP .

[2 marks]

Question 5

The ocean liner Queen Mary 2 is the longest of its type.
It has a length of 345 metres.

A scale model is made of the Queen Mary 2
The scale of the model is 1 : 200

Work out the length of the scale model.
Give your answer in centimetres.



[3 marks]



Question 6

$AC = 6.15$ cm.

(b) Work out the length of AB .

[2 marks]

Question 7

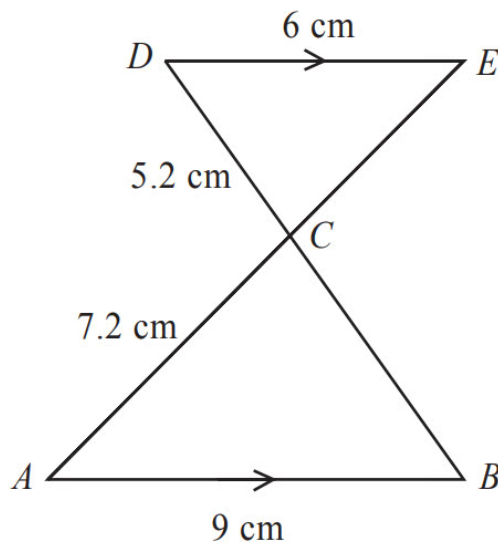


Diagram **NOT**
accurately drawn

AB is parallel to DE .

ACE and BCD are straight lines.

$AB = 9$ cm.

$AC = 7.2$ cm.

$CD = 5.2$ cm.

$DE = 6$ cm.

(a) Calculate the length of BC .

[2 marks]



Question 8

The diagram shows triangle ADC .

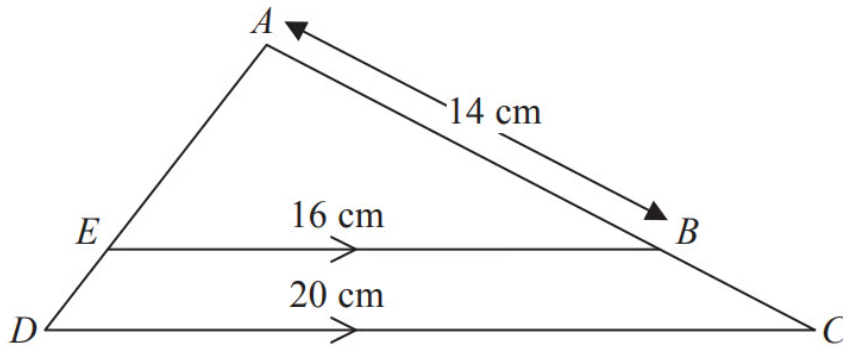


Diagram **NOT** accurately drawn

E is a point on AD and B is a point on AC so that EB is parallel to DC .

$AB = 14$ cm.

$EB = 16$ cm.

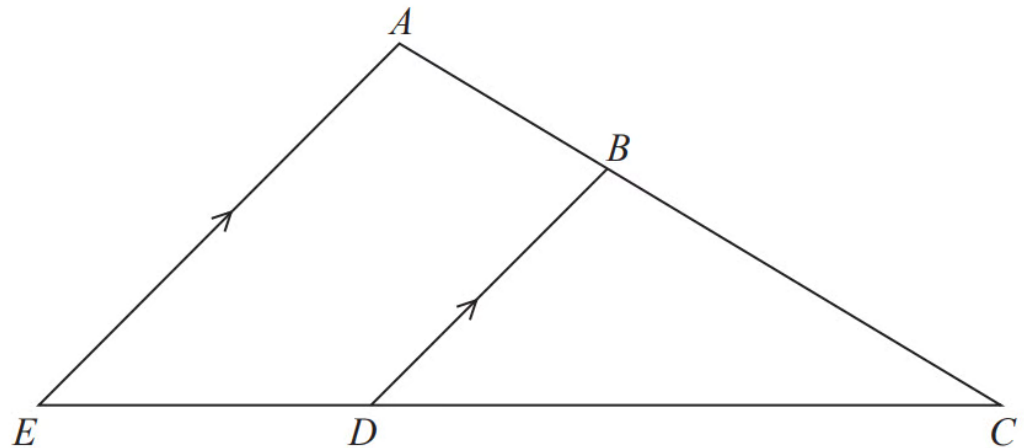
$DC = 20$ cm.

Calculate the length of BC .

[3 marks]



Question 9



ABC and EDC are straight lines.

EA is parallel to DB .

$EC = 8.1$ cm.

$DC = 5.4$ cm.

$DB = 2.6$ cm.

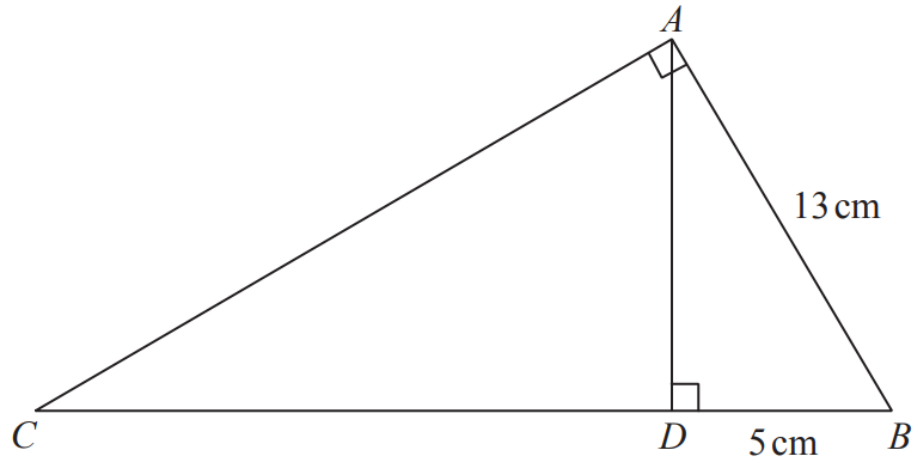
(a) Work out the length of AE .

[2 marks]



Question 10

ABC and ABD are two right-angled triangles.



Angle $BAC = \text{angle } ADB = 90^\circ$

$AB = 13 \text{ cm}$

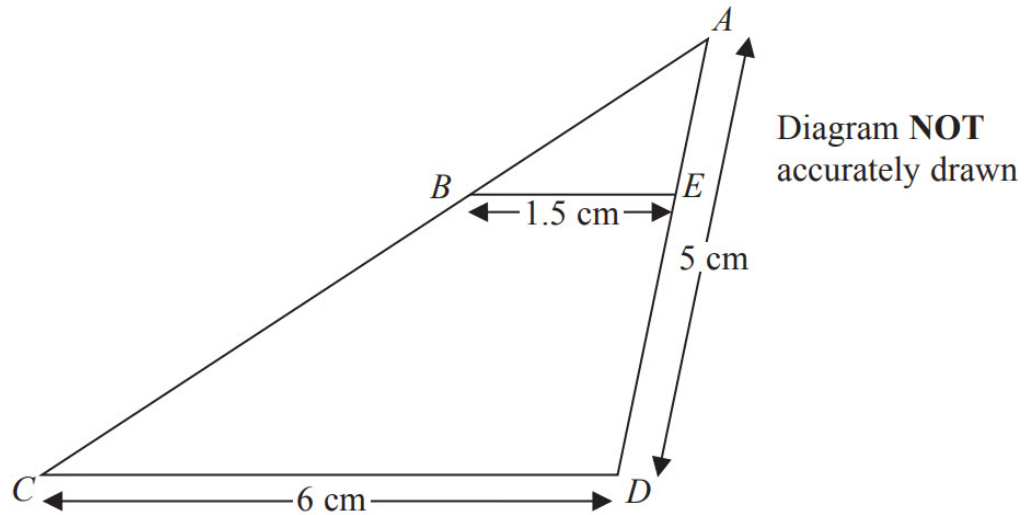
$DB = 5 \text{ cm}$

Work out the length of CB .

[3 marks]



Question 11



ABC and AED are straight lines.

BE and CD are parallel.

$BE = 1.5$ cm.

$CD = 6$ cm.

$AD = 5$ cm.

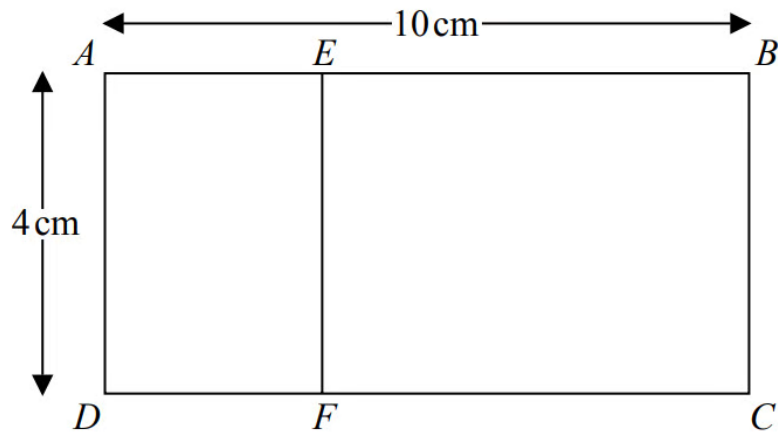
Calculate the length of ED .

[3 marks]



Question 12

Rectangle $ABCD$ is mathematically similar to rectangle $DAEF$.



$$AB = 10\text{ cm.}$$

$$AD = 4\text{ cm.}$$

Work out the area of rectangle $DAEF$.

[3 marks]

Question 13

(b) Work out the scale of the map in the form $1:n$

[2 marks]



Question 14

(b) Calculate the length of DE .

[2 marks]



Question 15

Steve has a photo and a rectangular piece of card.

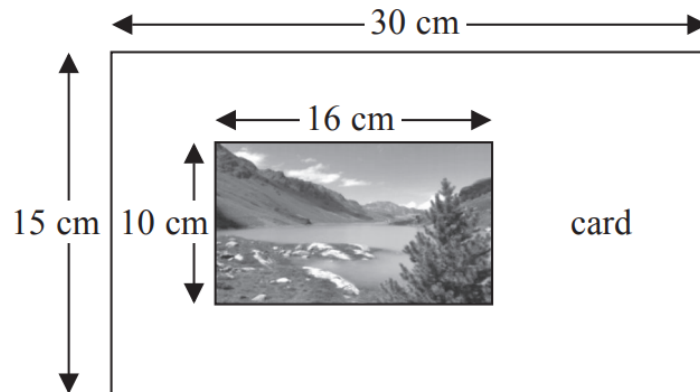
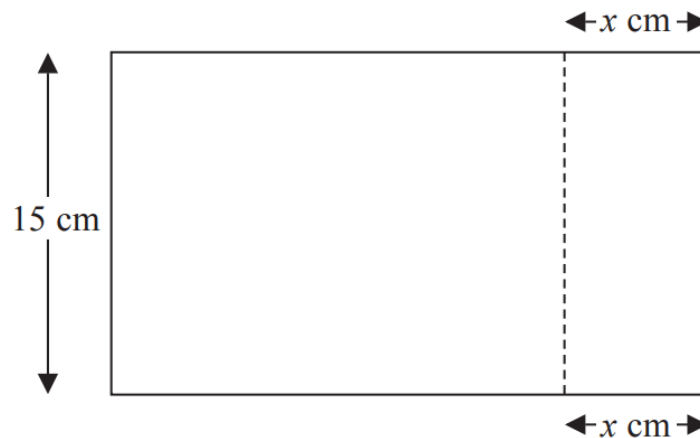


Diagram **NOT** accurately drawn

The photo is 16 cm by 10 cm.
The card is 30 cm by 15 cm.

Steve cuts the card along the dotted line shown in the diagram below.



Steve throws away the piece of card that is 15 cm by x cm.
The piece of card he has left is mathematically similar to the photo.

Work out the value of x .

[3 marks]