Name: _____

GCSE (1 – 9)

Similar Shapes

Instructions

• Use **black** ink or ball-point pen.
• Answer all questions.
• Answer the questions in the spaces provided
– *there may be more space than you need.*
• Diagrams are **NOT** accurately drawn, unless otherwise indicated.
• You must **show all your working out.**

Information

• The marks for each question are shown in brackets
– *use this as a guide as to how much time to spend on each question.*

Advice

• Read each question carefully before you start to answer it.
• Keep an eye on the time.
• Try to answer every question.
• Check your answers if you have time at the end

1.

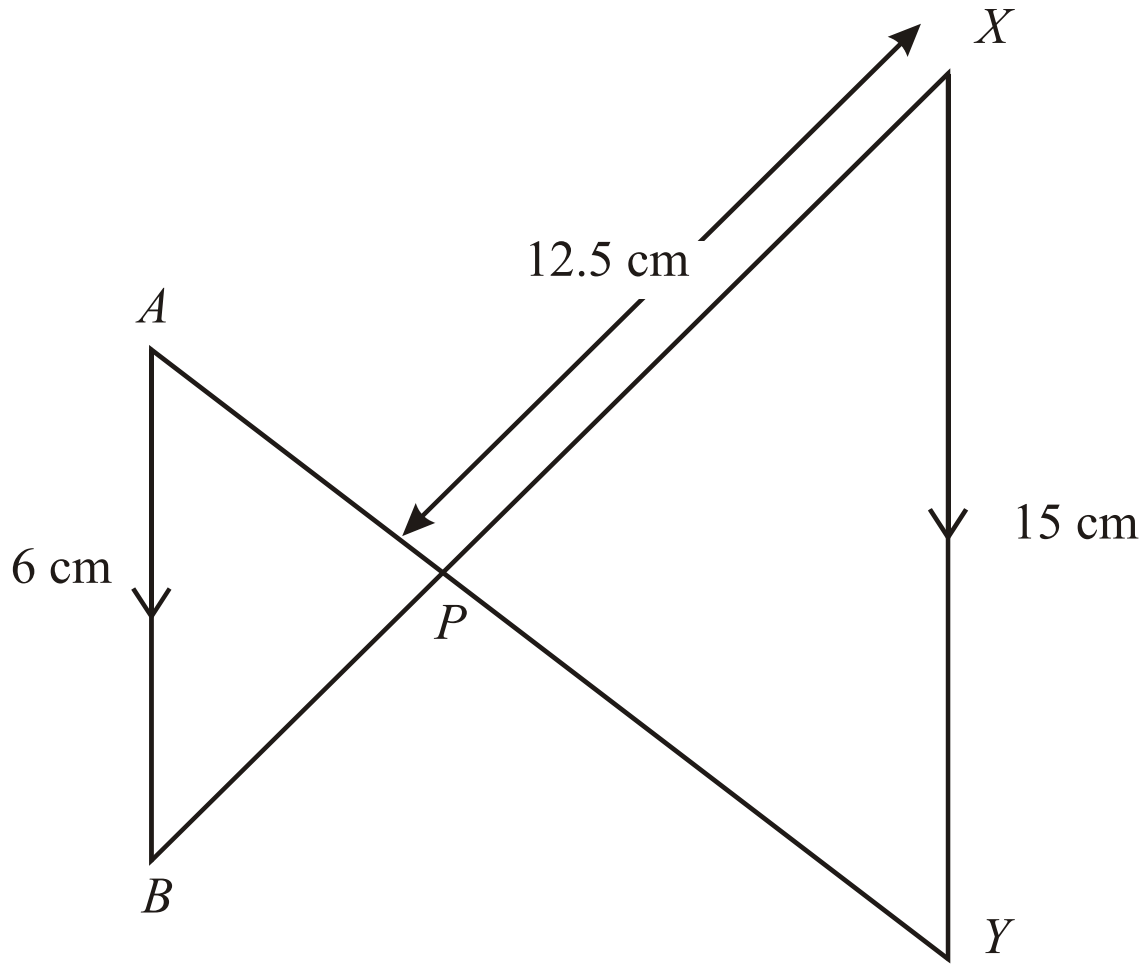


Diagram NOT accurately drawn

AB is parallel to XY.
The lines AY and BX intersect at P.
AB = 6 cm.
XP = 12.5 cm.
XY = 15 cm.

Work out the length of BP.

..... cm (3)

2.

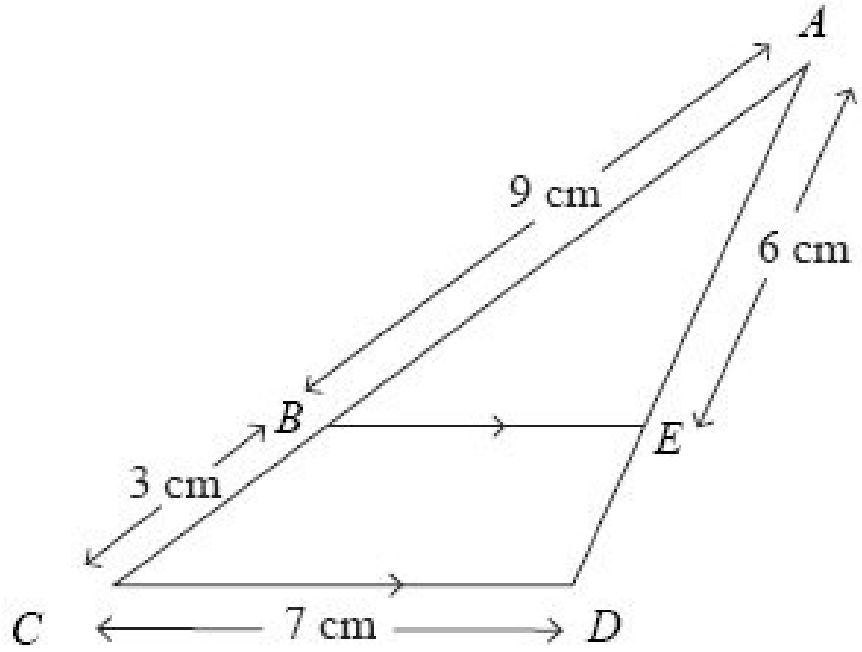


Diagram **NOT** accurately drawn

BE is parallel to CD.
AB = 9 cm, BC = 3 cm, CD = 7 cm, AE = 6 cm.

(a) Calculate the length of ED.

..... cm (2)

(b) Calculate the length of BE.

..... cm (2)

3.

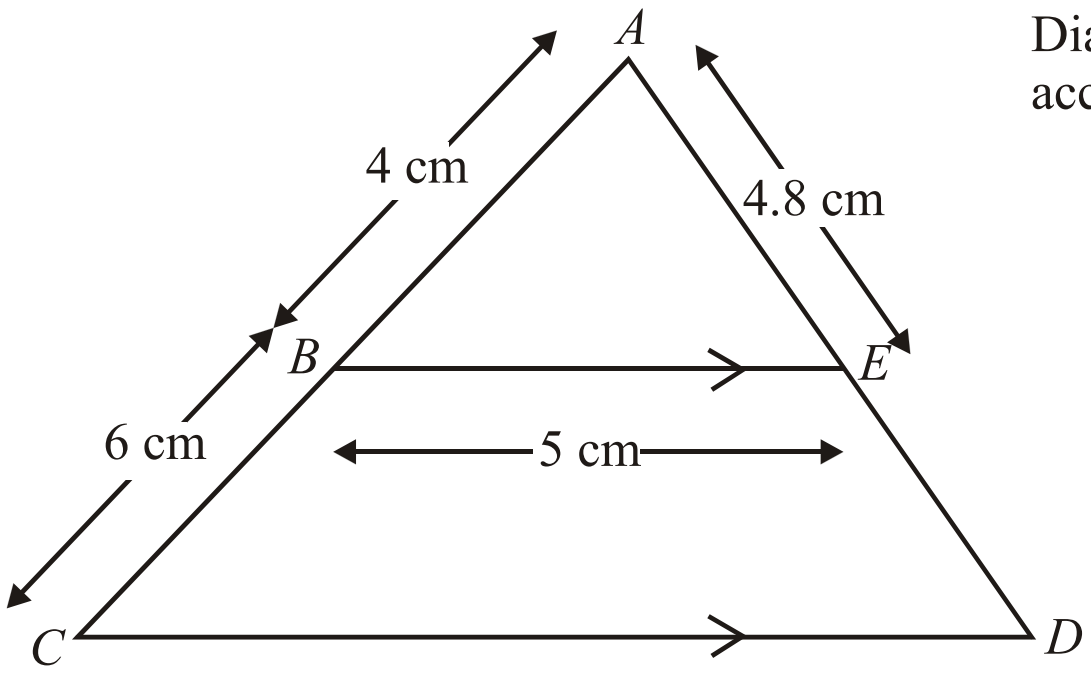


Diagram **NOT** accurately drawn

BE is parallel to CD.
ABC and AED are straight lines.
AB = 4 cm, BC = 6 cm, BE = 5 cm, AE = 4.8 cm.

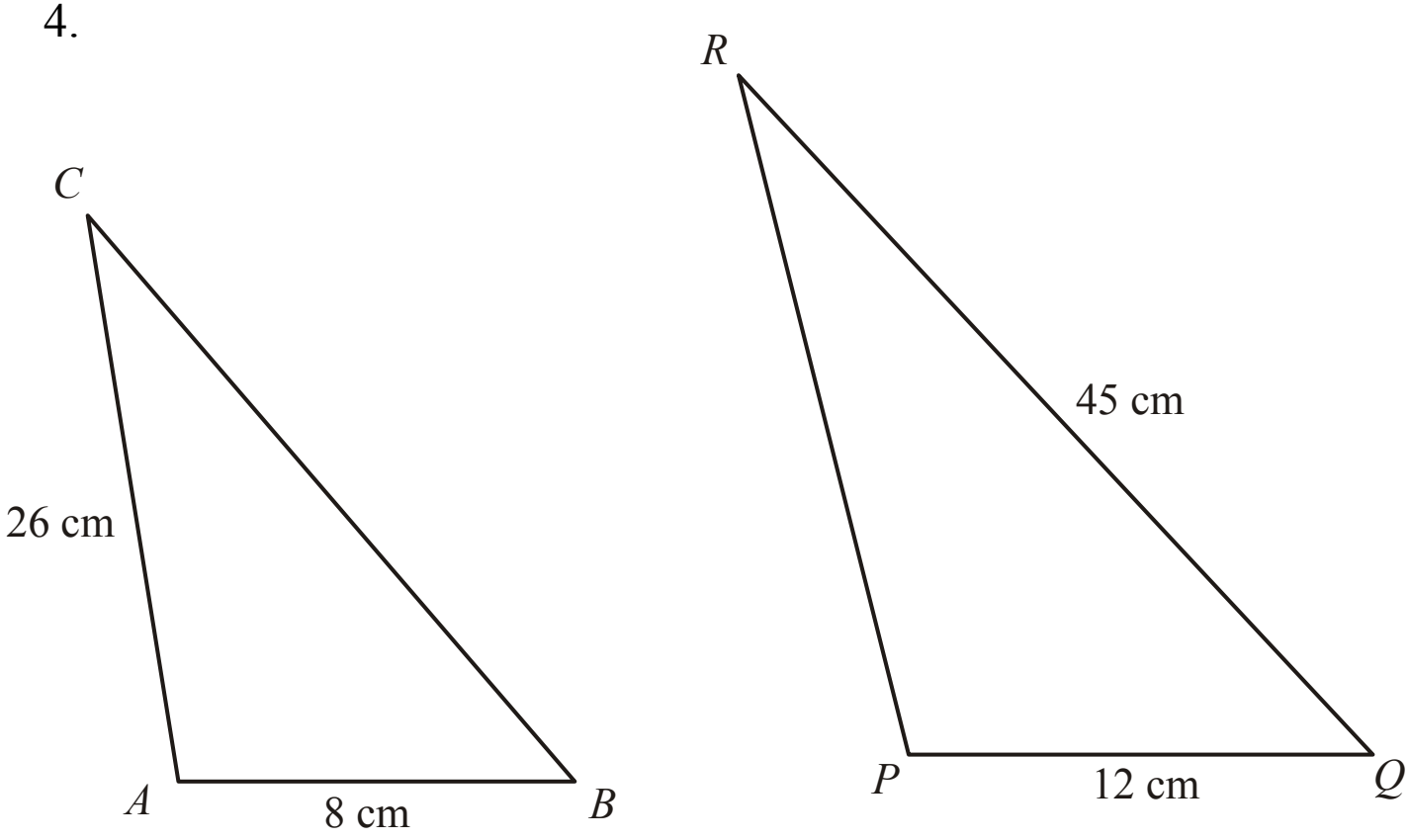
(a) Calculate the length of CD.

..... cm (2)

(b) Calculate the length of ED.

..... cm (2)

4.



The two triangles ABC and PQR are mathematically similar.
Angle A = angle P.
Angle B = angle Q.
AB = 8 cm.
AC = 26 cm.
PQ = 12 cm.
QR = 45 cm.

(a) Calculate the length of PR.

..... cm (2)

(b) Calculate the length of BC.

..... cm (2)

5.

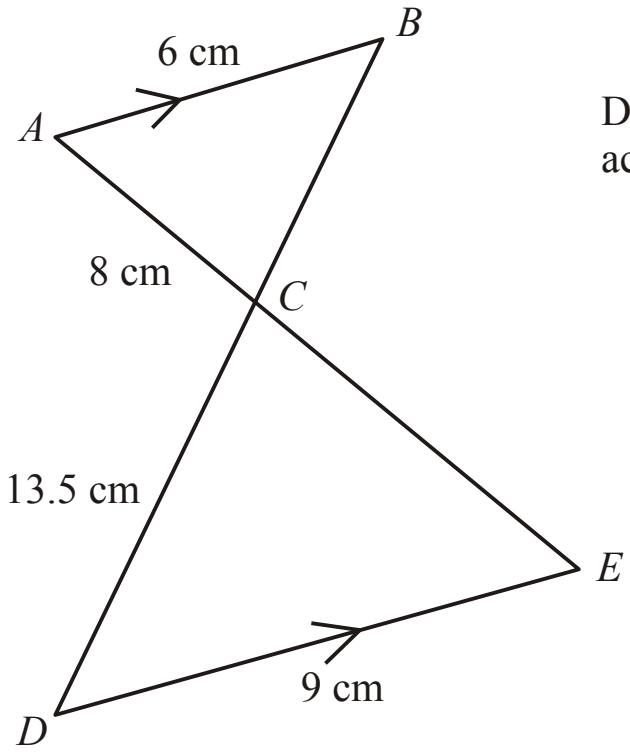


Diagram **NOT** accurately drawn

AB is parallel to DE.
ACE and BCD are straight lines.
AB = 6 cm,
AC = 8 cm,
CD = 13.5 cm,
DE = 9 cm.

(a) Calculate the length of CE.

..... cm (2)

(b) Calculate the length of BC.

..... cm (2)

6.

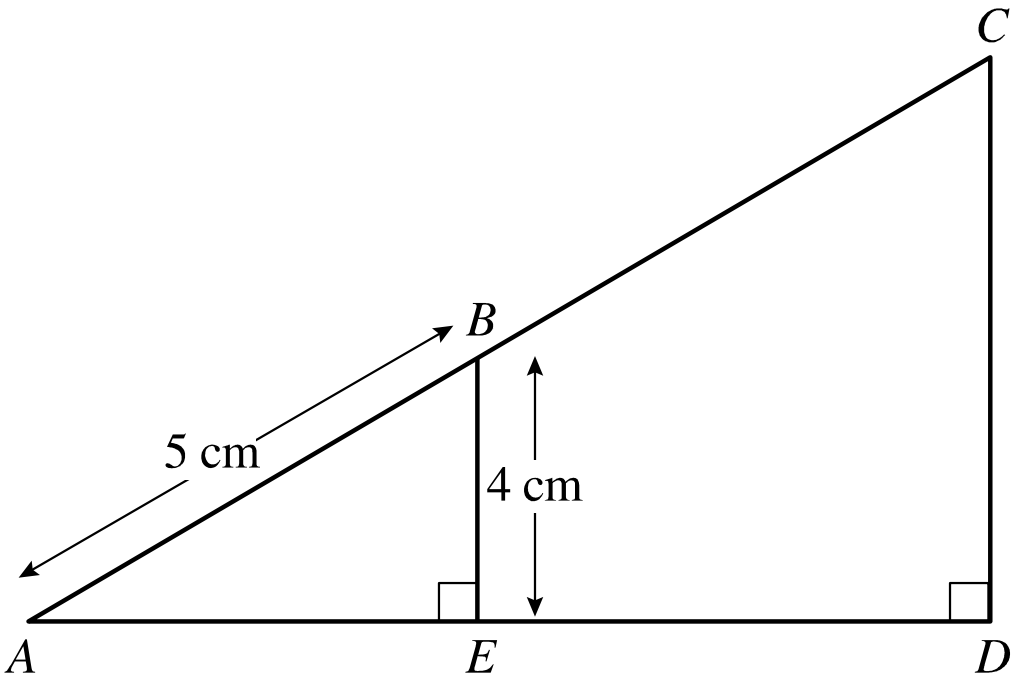


Diagram **NOT** accurately drawn

AB: AC = 1: 3

(a) Calculate the length of CD.

..... cm (2)

(b) Calculate the length of BC.

..... cm (2)

7.

A 20 Euro note is a rectangle 133 mm long and 72 mm wide.
A 500 Euro Note is a rectangle 160 mm long and 82 mm wide.

Show that the two rectangles are not mathematically similar.

(3)