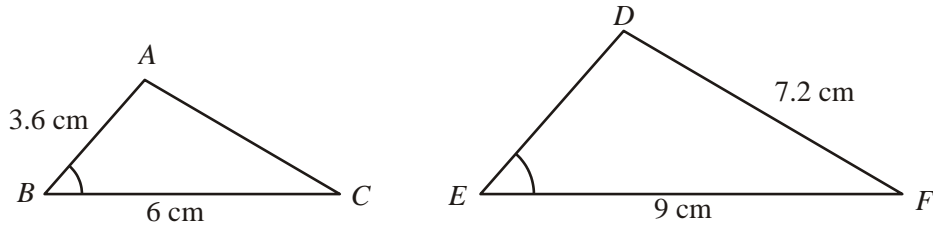


Mathematics GCSE – Similar Shapes

Name _____

1. Triangles ABC and DEF are similar.
Angle $B =$ angle E
 $AB = 3.6$ cm and $BC = 6$ cm
 $DF = 7.2$ cm and $EF = 9$ cm



Diagrams not to scale

- (a) Calculate the length of DE .

.....
.....
.....

Answer cm

(2)

- (b) Calculate the length of AC .

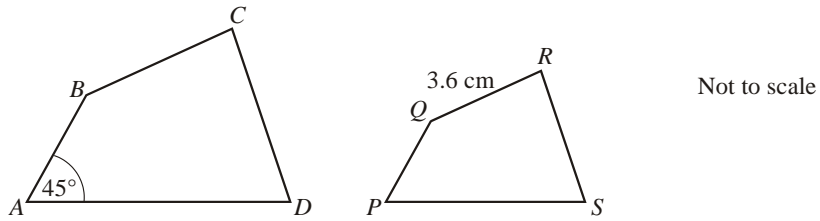
.....
.....
.....

Answer cm

(2)

(Total 4 marks)

2. $PQRS$ is an enlargement of $ABCD$ with scale factor $\frac{2}{3}$
 $QR = 3.6\text{cm}$
 Angle $BAD = 45^\circ$



- (a) Calculate the length of BC .

.....

Answer cm

(2)

- (b) Find the size of angle QPS .

.....

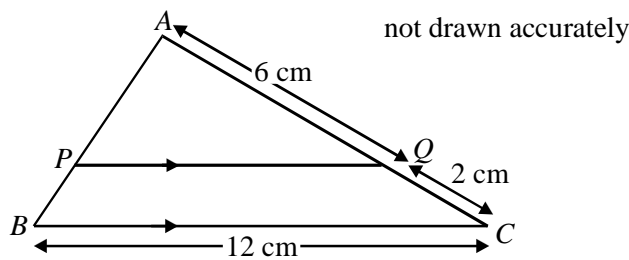
Answer degrees

(1)

(Total 3 marks)

3. Triangles ABC and APQ are similar.
 PQ is parallel to BC .

$AQ = 6\text{ cm}$, $QC = 2\text{ cm}$ and $BC = 12\text{ cm}$



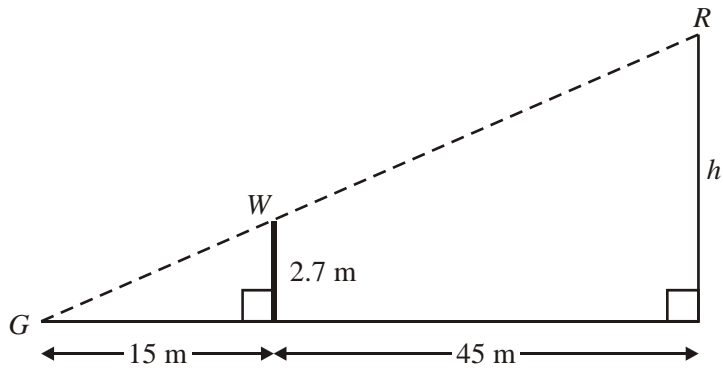
Calculate the length of PQ .

.....

Answer.....cm

(Total 3 marks)

4. Gary, G , can just see the top of a radio mast, R , over a wall, W .
 Gary is 15 m from the wall.
 The wall is 45 m from the radio mast.
 The wall is 2.7 m high.



Not to scale

Calculate the height of the radio mast, marked h on the diagram.

.....

.....

.....

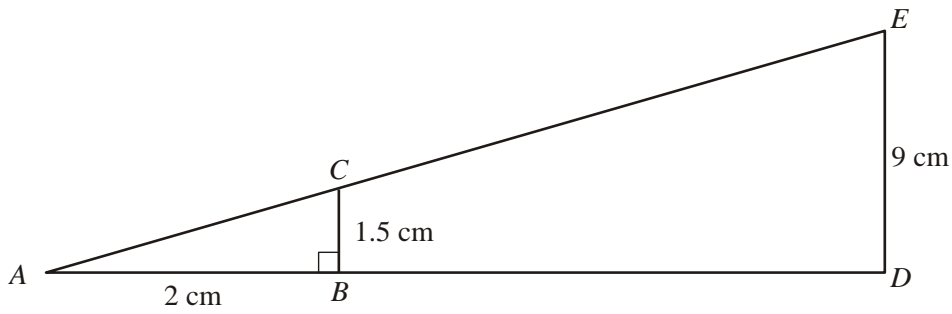
.....

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.....

Answer m
 (Total 3 marks)

5. ABC and ADE are similar triangles.
 $BC = 1.5$ cm, $DE = 9$ cm, $AB = 2$ cm



Not drawn accurately

Calculate the length of BD .

.....

.....

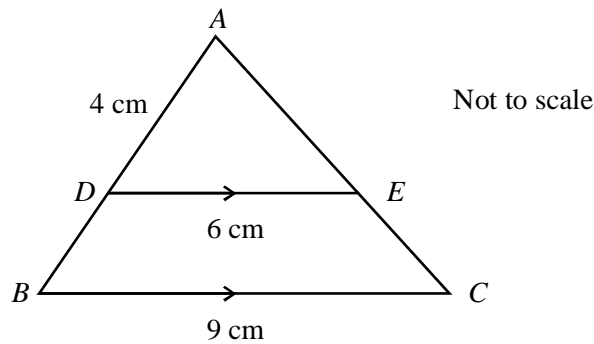
.....

.....

.....

Answer cm
 (Total 3 marks)

6. Triangles ADE and ABC are similar.
 DE is parallel to BC .
 $AD = 4$ cm, $DE = 6$ cm and $BC = 9$ cm.



Calculate the length of BD .

.....

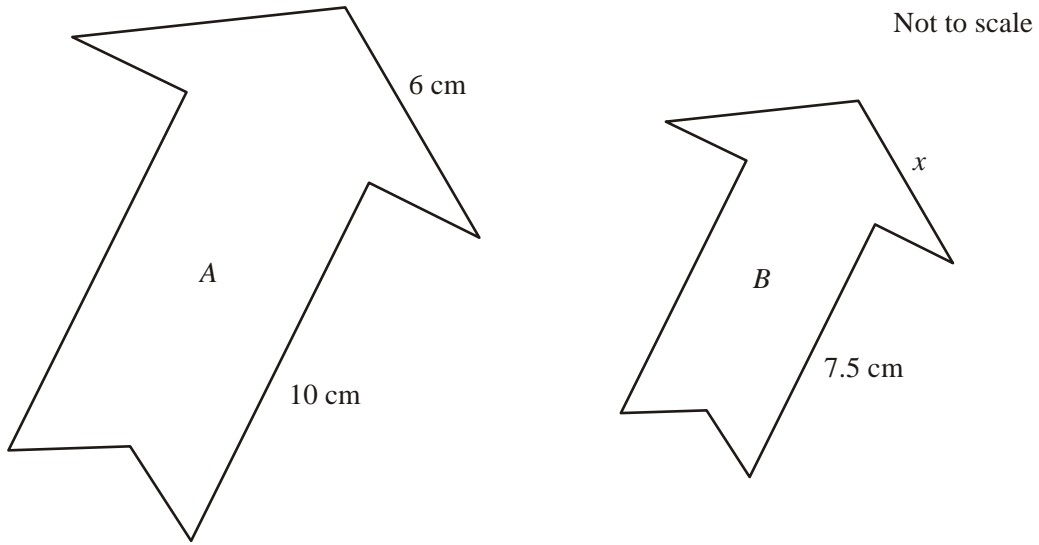
.....

.....

.....

Answer cm
 (Total 3 marks)

7. The diagrams show two similar shapes *A* and *B*.



(a) Work out the value of x .

.....

Answer cm

(3)

(b) The perimeter of shape *B* is 30 cm.

Work out the perimeter of shape *A*.

.....

Answer cm

(2)

(Total 5 marks)