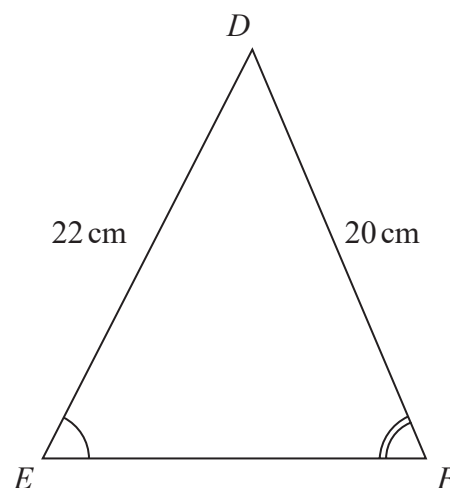
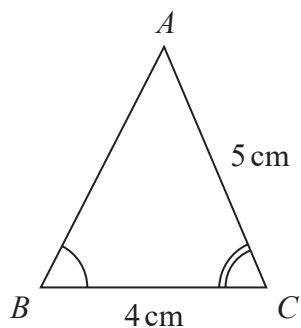


- 1 Triangle ABC and triangle DEF are similar.



- (a) Work out the length of EF .

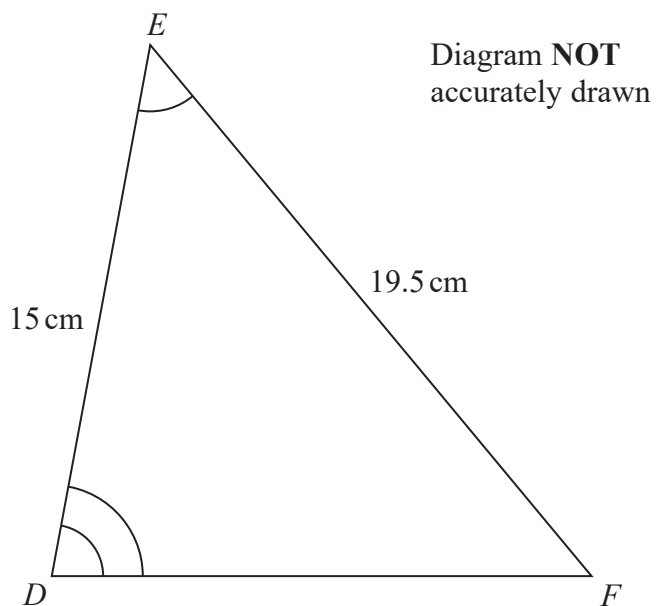
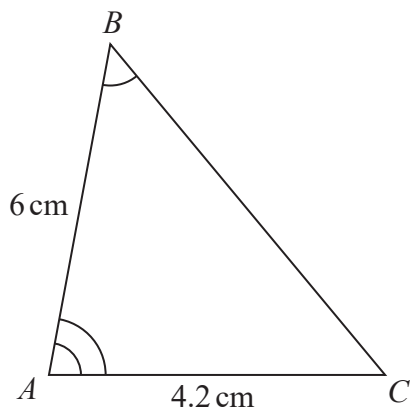
..... cm
(2)

- (b) Work out the length of AB .

..... cm
(2)

(Total for Question 1 is 4 marks)

2 ABC and DEF are similar triangles.



(a) Work out the length of DF .

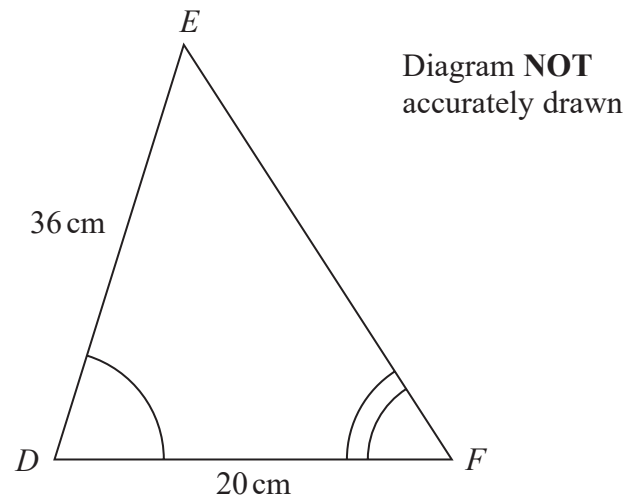
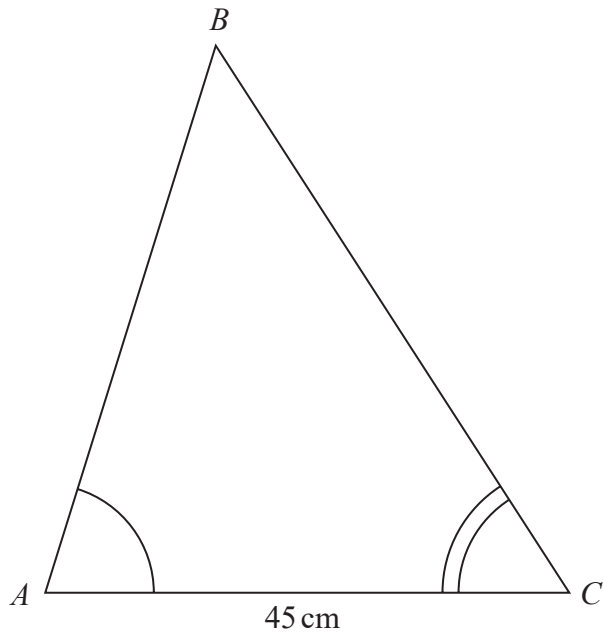
.....cm
(2)

(b) Work out the length of BC .

.....cm
(2)

(Total for Question 2 is 4 marks)

3 ABC and DEF are similar triangles.



(a) Work out the length of AB .

..... cm
(2)

Given that $BC = 54\text{ cm}$,

(b) work out the length of EF .

..... cm
(2)

(Total for Question 3 is 4 marks)

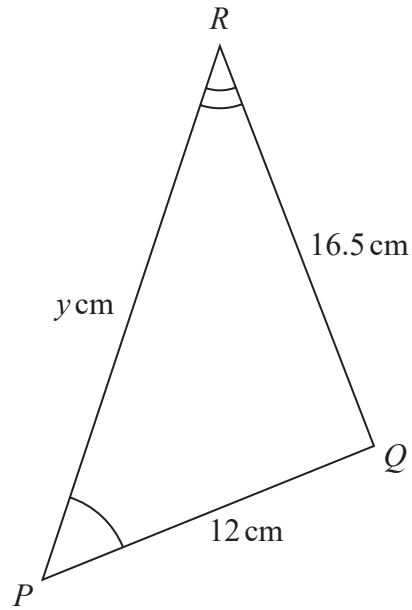
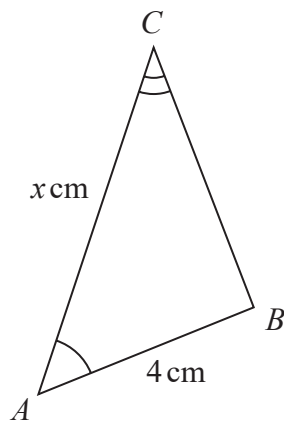


Diagram **NOT**
accurately drawn

Triangle ABC is similar to triangle PQR

$$AB = 4 \text{ cm} \quad PQ = 12 \text{ cm} \quad RQ = 16.5 \text{ cm} \quad AC = x \text{ cm} \quad PR = y \text{ cm}$$

(a) Calculate the length of BC

..... cm
(2)

(b) Write down an expression for y in terms of x

$y =$
(1)

(Total for Question 4 is 3 marks)

5 ABC and DEF are similar triangles.

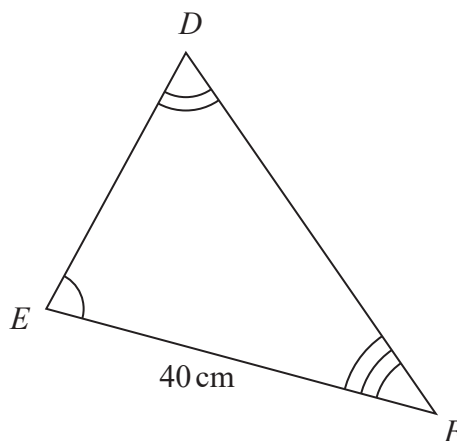
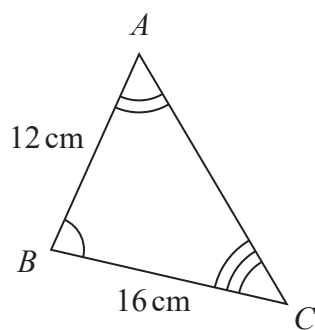


Diagram **NOT**
accurately drawn

(a) Work out the length of DE .

..... cm
(2)

The area of triangle DEF is 525 cm^2

(b) Find the area of triangle DEF in m^2

..... m^2
(2)

(Total for Question 5 is 4 marks)

6

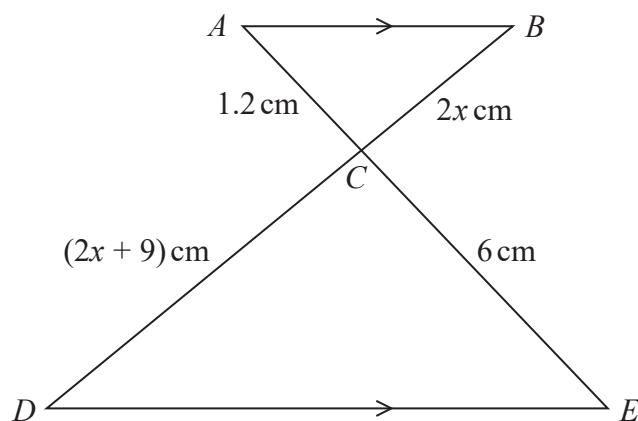


Diagram **NOT**
accurately drawn

ACE and BCD are straight lines.

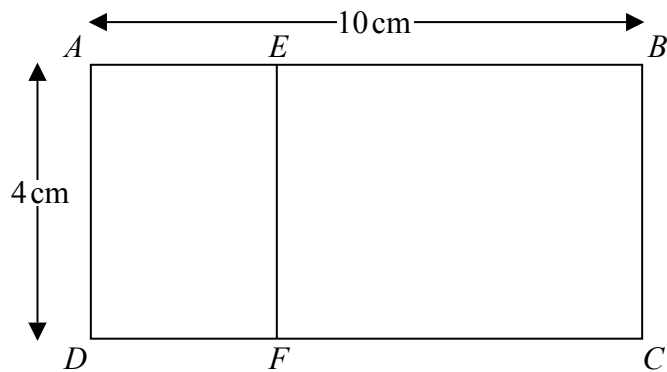
AB is parallel to DE

Work out the value of x

$x = \dots\dots\dots$

(Total for Question 6 is 3 marks)

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



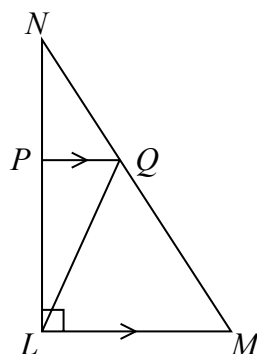
$AB = 10\text{ cm}$.
 $AD = 4\text{ cm}$.

Work out the area of rectangle $DAEF$.

..... cm^2

(Total for Question 7 is 3 marks)

8 LMN is a right-angled triangle.



Angle $NLM = 90^\circ$

PQ is parallel to LM .

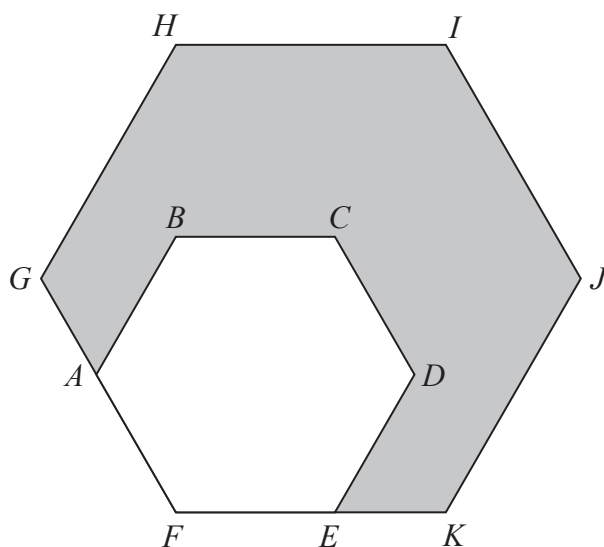
The area of triangle PNQ is 8 cm^2

The area of triangle LPQ is 16 cm^2

Work out the area of triangle LQM .

..... cm^2

(Total for Question 8 is 4 marks)

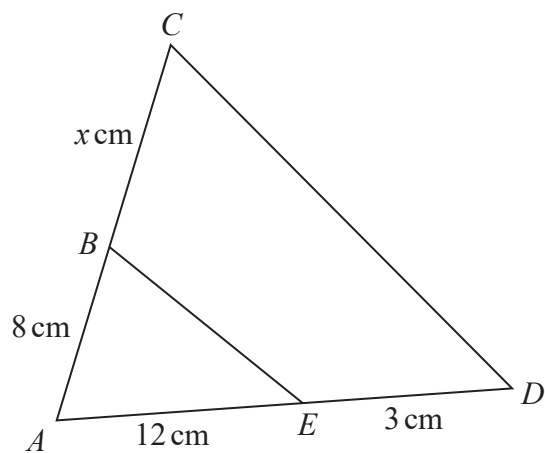


$ABCDEF$ is a regular hexagon with sides of length x .

This hexagon is enlarged, centre F , by scale factor p to give hexagon $FGHIJK$.

Show that the area of the shaded region in the diagram is given by $\frac{3\sqrt{3}}{2}(p^2 - 1)x^2$

10 The two triangles in the diagram are similar.



There are two possible values of x .

Work out each of these values.

State any assumptions you make in your working.

(Total for Question 10 is 5 marks)