

- 1 The diagram shows a regular hexagon, $ABCDEF$, and an isosceles triangle, GHI .

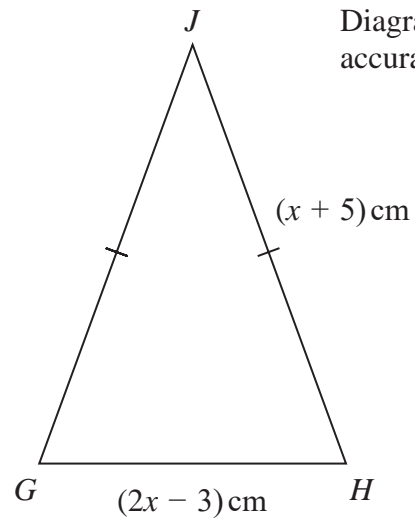
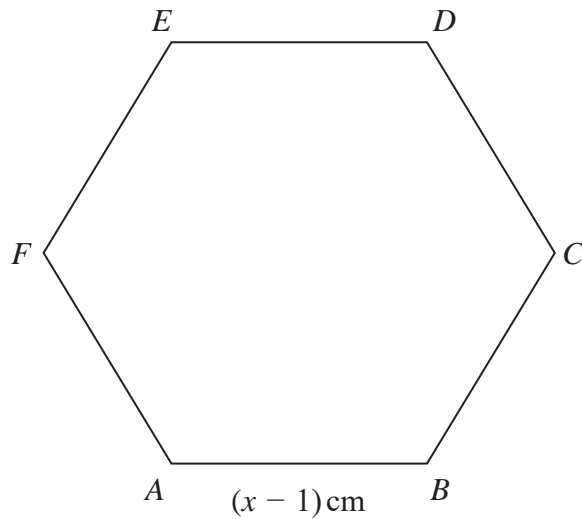


Diagram **NOT**
accurately drawn

The perimeter of the hexagon is equal to the perimeter of the triangle.

Find the length of each side of the hexagon.
Show clear algebraic working.

..... cm

(Total for Question 1 is 5 marks)

- 2 The diagram shows a shaded shape $ABCD$ made from a semicircle ABC and a right-angled triangle ACD .

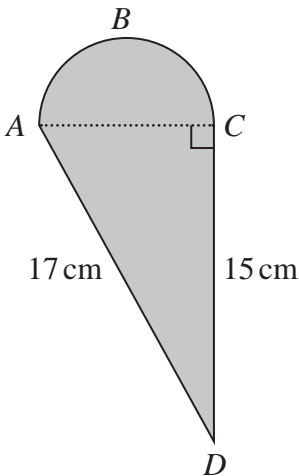


Diagram **NOT**
accurately drawn

AC is the diameter of the semicircle ABC .

Work out the perimeter of the shaded shape.
Give your answer correct to 3 significant figures.

..... cm

(Total for Question 2 is 5 marks)

3

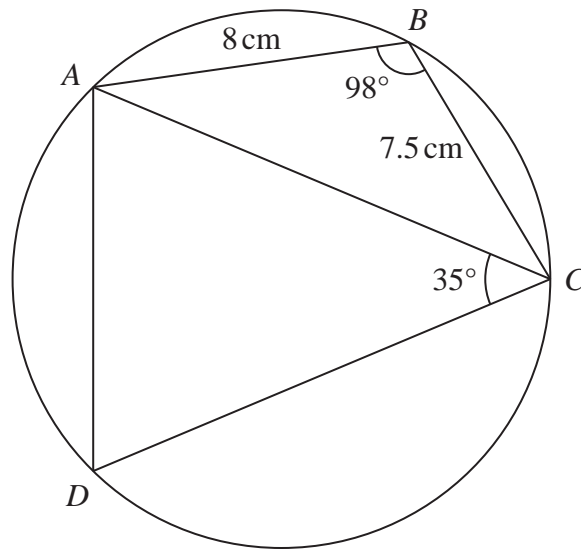


Diagram **NOT**
accurately drawn

$ABCD$ is a quadrilateral where A , B , C and D are points on a circle.

$$AB = 8\text{ cm}$$

$$BC = 7.5\text{ cm}$$

$$\text{Angle } ABC = 98^\circ$$

$$\text{Angle } ACD = 35^\circ$$

Work out the perimeter of quadrilateral $ABCD$.

Give your answer correct to one decimal place.

..... cm

(Total for Question 3 is 6 marks)

- 4 A circle centre O has radius 9 cm.

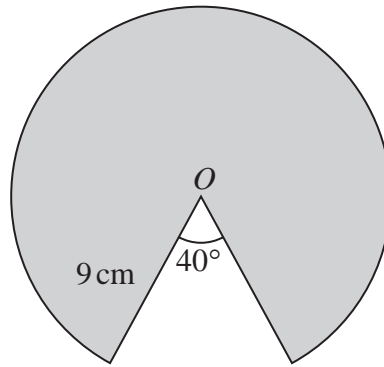


Diagram **NOT**
accurately drawn

Calculate the perimeter of the shaded sector of the circle.
Give your answer correct to 3 significant figures.

..... cm

(Total for Question 4 is 4 marks)

5 Here is isosceles triangle ABC .

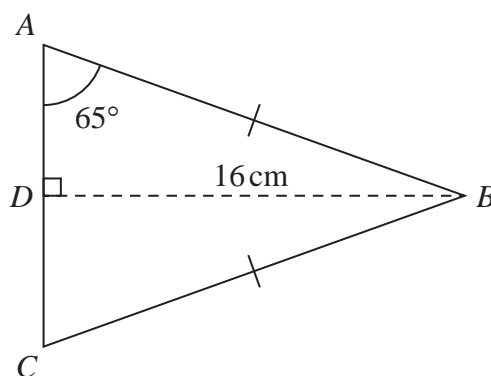


Diagram **NOT**
accurately drawn

D is the midpoint of AC and $DB = 16\text{ cm}$.

Angle $DAB = 65^\circ$

Work out the perimeter of triangle ABC .

Give your answer correct to one decimal place.

..... cm

(Total for Question 5 is 4 marks)

6 A rectangle $ABCD$ is to be drawn on a centimetre grid such that

A has coordinates $(-4, -2)$

B has coordinates $(1, 10)$

C has coordinates $(19, a)$

D has coordinates (b, c)

(b) Calculate the perimeter, in centimetres, of rectangle $ABCD$.

..... cm

(3)

(Total for Question 6 is 3 marks)

7 The diagram shows a sector AOB of a circle with centre O

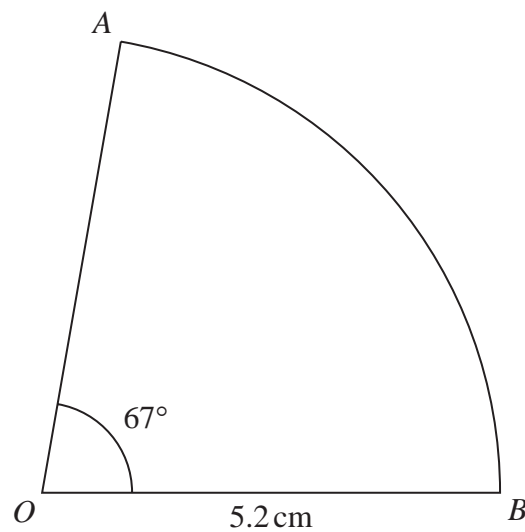


Diagram **NOT**
accurately drawn

Angle $AOB = 67^\circ$
 $OA = OB = 5.2 \text{ cm}$

Calculate the perimeter of the sector.
Give your answer correct to 3 significant figures.

..... cm

(Total for Question 7 is 3 marks)

8 Markus makes a steel framework.

The framework is in the shape of the right-angled triangle ABC shown in the diagram.

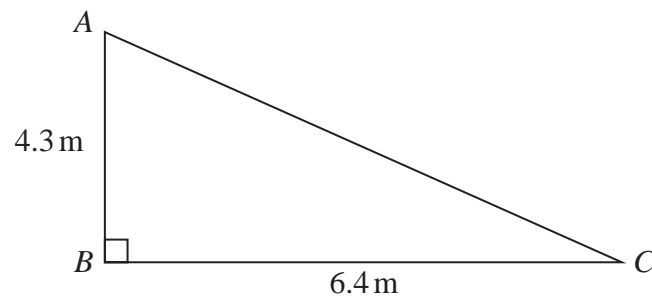


Diagram **NOT**
accurately drawn

The steel that Markus uses costs \$22 per metre.

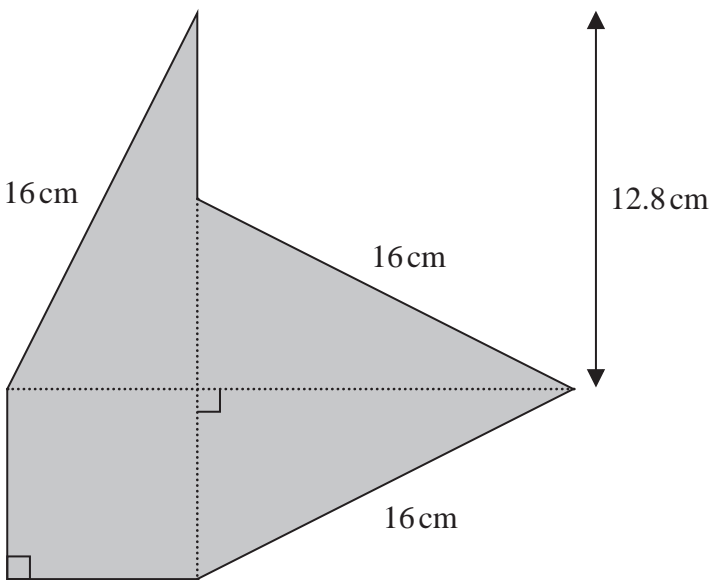
The steel can **only** be bought in a length that is a whole number of metres.

Work out the total cost of the steel that Markus buys in order to make the framework.

\$.....

(Total for Question 8 is 4 marks)

9 The shaded shape is made using three identical right-angled triangles and a square.



Work out the perimeter of the shaded shape.

..... cm

(Total for Question 9 is 4 marks)

10

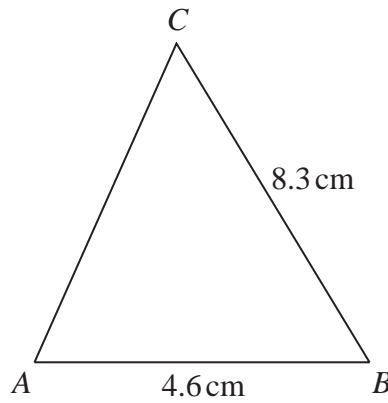


Diagram **NOT**
accurately drawn

$AB = 4.6 \text{ cm}$ $BC = 8.3 \text{ cm}$ angle ABC is acute

The area of triangle ABC is 12 cm^2

Work out the perimeter of triangle ABC
Give your answer correct to 3 significant figures.

..... cm

(Total for Question 10 is 5 marks)

11 A , B and C are points on a circle, centre O

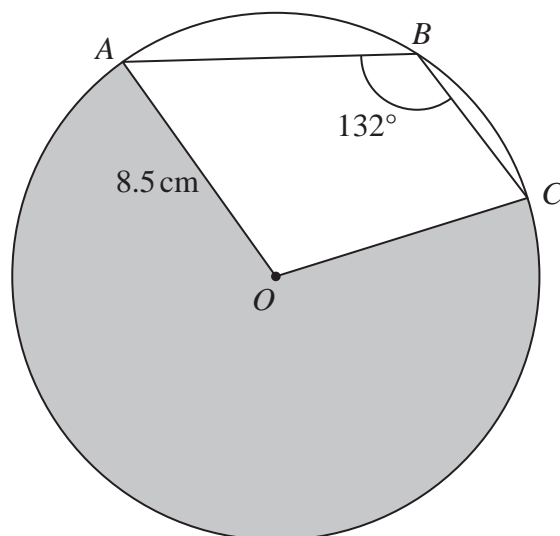


Diagram **NOT**
accurately drawn

The radius of the circle is 8.5 cm

Angle $ABC = 132^\circ$

Work out the perimeter of the shaded sector AOC

Give your answer correct to 3 significant figures.

..... cm

(Total for Question 11 is 3 marks)

12 The diagram shows rectangle $ABCD$

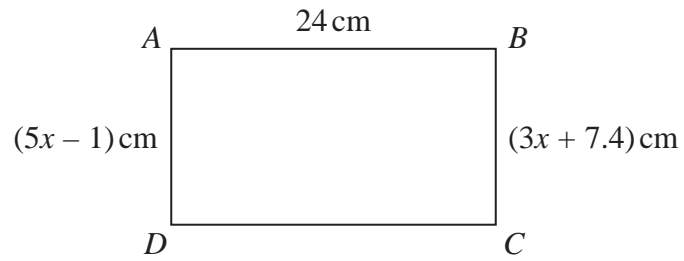


Diagram **NOT**
accurately drawn

Work out the perimeter of the rectangle.
Show your working clearly.

..... cm

(Total for Question 12 is 4 marks)

- 13** The diagram shows an isosceles triangle, with base length 24 cm.

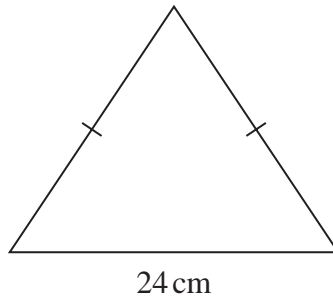


Diagram **NOT**
accurately drawn

The perimeter of the triangle is 54 cm.

Work out the area of the triangle.

..... cm²

(Total for Question 13 is 5 marks)

- 14 The diagram shows a shape made up of three semicircles, enclosing a right-angled triangle.

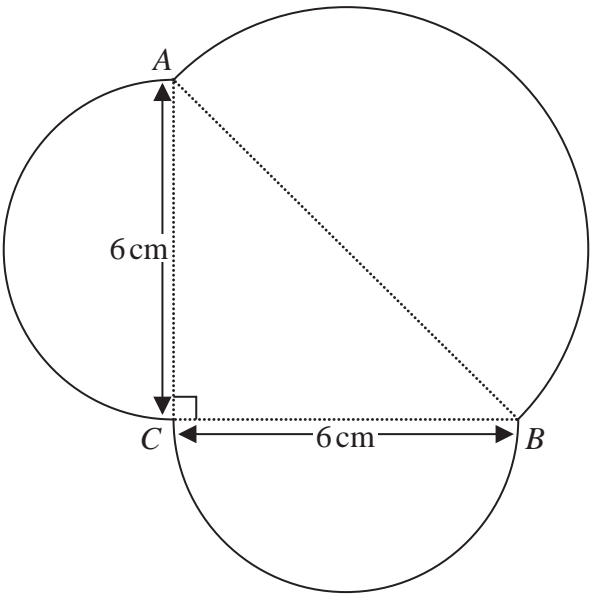


Diagram **NOT**
accurately drawn

AB , BC and CA are each the diameter of a semicircle.

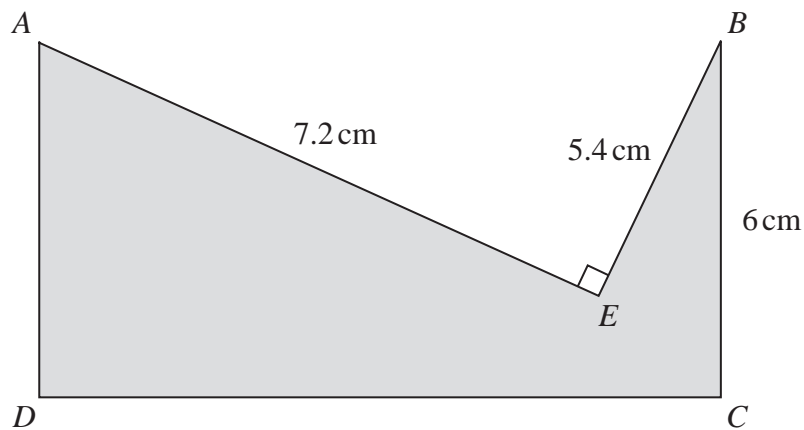
$BC = CA = 6\text{ cm}.$

Work out the perimeter of the shape.
Give your answer correct to one decimal place.

..... cm

(Total for Question 14 is 5 marks)

- 15 The diagram shows a shaded shape $AEBCD$ made by removing triangle AEB from rectangle $ABCD$



$$AE = 7.2 \text{ cm} \quad BE = 5.4 \text{ cm} \quad BC = 6 \text{ cm} \quad \text{angle } AEB = 90^\circ$$

Work out the perimeter of the shaded shape.

..... cm

(Total for Question 15 is 4 marks)