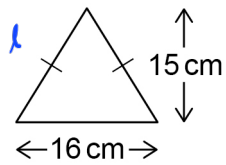
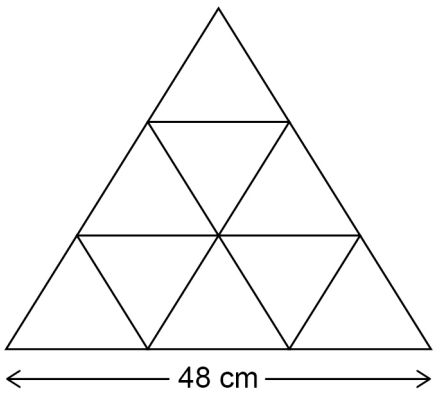
1 An isosceles triangle has base 16 cm and perpendicular height 15 cm



Not drawn accurately

Some of these triangles are used to make a large triangle.



Not drawn accurately

Work out the perimeter of the large triangle.

[4 marks]

$\frac{16}{2} = 8$ (1)

By using Pythagoras' Theorem : $l = \sqrt{15^2 + 8^2}$

$= \sqrt{225 + 64}$

$= \sqrt{289}$ (1)

$= 17$

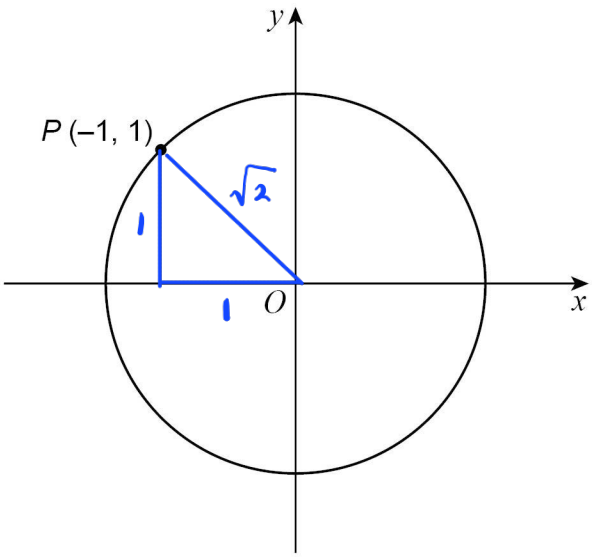
Perimeter : $17 + 17 + 17 + 17 + 17 + 17 + 48$ (1)

$= 102 + 48$

$= 150$ (1)

Answer 150 cm

2 P (–1, 1) is a point on the circle, centre O, radius r.



Not drawn accurately

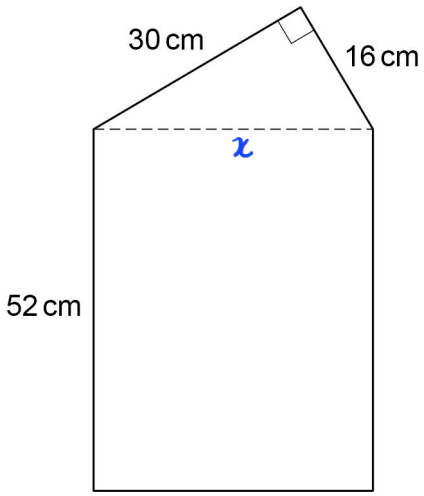
Work out the value of r.

Circle your answer.

[1 mark]

1 2 $\sqrt{2}$ $2\sqrt{2}$

3 A shape is made by joining a right-angled triangle to a rectangle.



Not drawn accurately

Work out the area of the shape.

[5 marks]

$x^2 = 30^2 + 16^2$

$= 900 + 256$ (1)

$= 1156$

$x = \sqrt{1156} = 34$ (1)

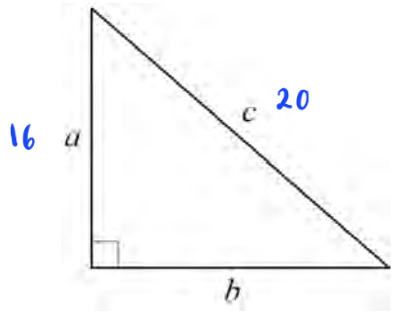
Area of triangle : $\frac{1}{2} \times 30 \times 16 = 240$ (1)

Area of rectangle : $52 \times 34 = 1768$ (1)

Total : $240 + 1768 = 2008$ (1)

Answer 2008 cm^2

4



Not drawn accurately

In this right-angled triangle,

$a = 16\,\text{cm}$

$a : c = 4 : 5$

Work out the area of the triangle.

[4 marks]

$c = \frac{5}{4} \times 16 = 20$ (1)

$b = \sqrt{20^2 - 16^2}$

$= \sqrt{144}$ (1)

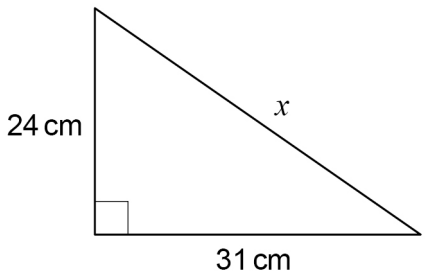
$= 12$ (1)

$\text{Area} = \frac{1}{2} \times 16 \times 12$

$= 96$ (1)

Answer 96 cm^2

5



Not drawn accurately

Use Pythagoras' theorem to work out the value of x.

Give your answer as a decimal.

[3 marks]

$x^2 = 24^2 + 31^2$ ✓(1)

$x = \sqrt{24^2 + 31^2}$ ✓(1)

$= \sqrt{1537}$

$= 39.2$ ✓(1)

Answer 39.2 cm