

# M3 = 15 days to go!

7 ABC is a triangle.

The length of the side AB is  $(x + 2)$  cm.

(a) The length of the side AC is twice the length of the side AB.

Find an expression for the length of AC.

$$AC = 2(x + 2)$$

Answer 2x + 4 cm [1]

(b) The length of the remaining side CB is calculated by adding the lengths of the sides AB and AC together and subtracting 7 cm.

Find an expression for the length of CB.

$$\begin{aligned} x + 2 + 2x + 4 - 7 \\ 3x + 6 - 7 \end{aligned}$$

Answer 3x - 1 cm [1]

(c) The perimeter of the triangle ABC is 20 cm.

Form an equation and solve it to find the length of the side AB.

$$x + 2 + 2x + 4 + 3x - 1 = 20$$

$$6x + 5 = 20$$

$$6x = 15$$

$$x = 2.5$$

Answer AB = 2.5 cm [3]

26 Solve

$$(x-5)(x+5) = 24x$$

$$(x-5)(x+5) = 24x$$

$$x^2 + 5x - 5x - 25 = 24x$$

$$x^2 - 25 = 24x$$

$$x^2 - 24x - 25 = 0$$

$$(x-25)(x+1) = 0$$

Each  $( ) = 0$

$$x - 25 = 0$$

$$x = 25$$

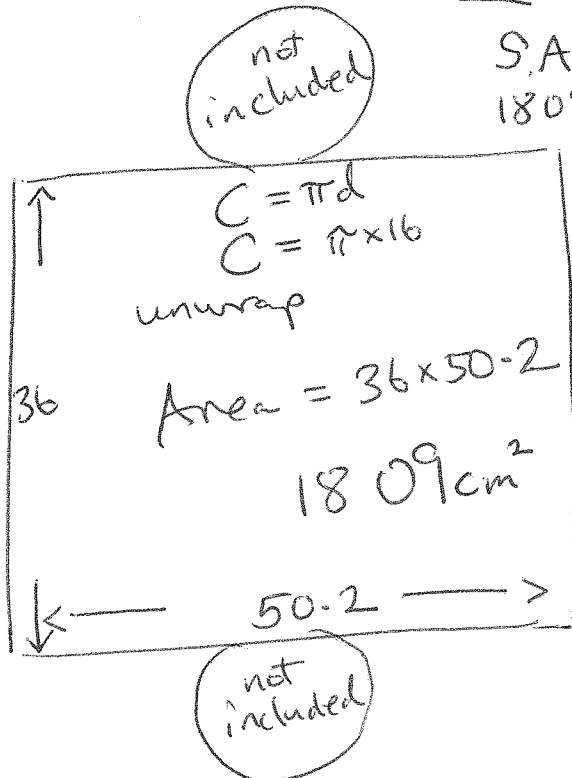
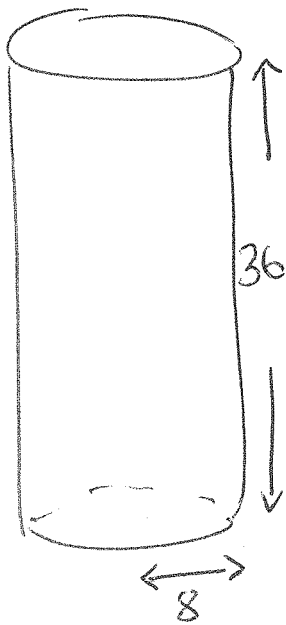
$$x + 1 = 0$$
$$x = -1$$

Answer  $x = 25$  and  $x = -1$  [4]

12 A cylinder has a base radius of 8 cm and a height of 36 cm.

The curved surface area of this cylinder is the same as the surface area of a sphere.

What is the radius of the sphere?



$$S.A = 4\pi r^2$$
$$1809 = 4\pi r^2$$
$$144 = r^2$$

Answer  $r = 12$  cm [4]