

M4 = 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.

$$\begin{aligned} AC &= 2AB \\ &= 2(x+2) \\ &= 2x+4 \end{aligned}$$

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.

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

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.

Perimeter is around the shape

$$\begin{aligned} x+2 + 2x+4 + 3x-1 &= 20 \\ 6x+5 &= 20 \end{aligned}$$

$$6x = 15$$

$$x = 2\frac{1}{2}$$

Answer AB = 2.5 cm [3]

26 Solve

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

FOIL

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

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

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

Must have quadratic = 0

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

Then each () = 0

$$x-25 = 0$$

$$x = 25$$

$$x+1 = 0$$

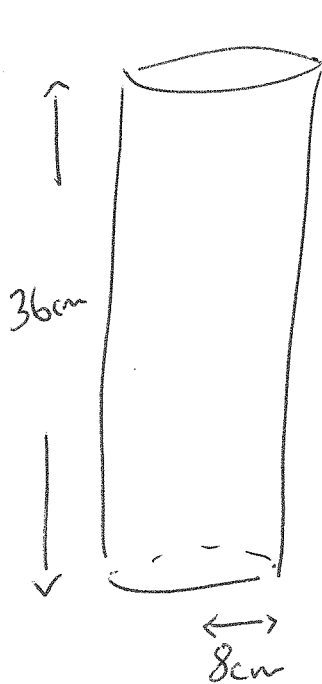
$$x = -1$$

Answer 25 and -1 [4]

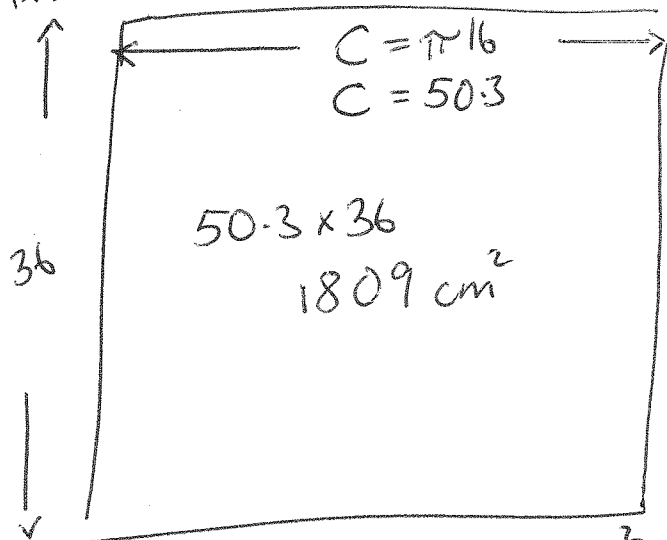
12 A cylinder has a base radius of 8 cm and a height of 36 cm.

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

What is the radius of the sphere?



un wrap this



But this is the same as

$$4\pi r^2$$

Keep number in your calculator

$$1809 = 4\pi r^2$$
$$144 = r^2$$

Answer 12 cm [4]