



Write as a fraction

$$64^{-\frac{2}{3}}$$

$$\sqrt[3]{64} = 4$$

$$4^2 = 16$$

$$\frac{1}{16}$$

Aisha saves some of her pocket money each week.

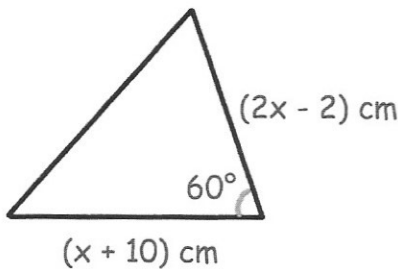
She saves 8p in week 1, 16p in week 2, 26p in week 3, 38p and so on for 20 weeks.

Find the amount she saves in week 20.

$$\begin{matrix} 8 & 16 & 26 & 38 \\ 8 & 10 & 12 & \\ & 2 & 2 & \end{matrix}$$

$$n^2 + 5n + 2$$

$$20^2 + 5 \times 20 + 2 = \pounds 5.02$$



$$\frac{1}{2} (x+10)(2x-2) \times \sin 60 = 90\sqrt{3}$$

The area of the triangle is  $90\sqrt{3}$  cm<sup>2</sup>. Work out the value of x.

$$\frac{\sqrt{3}}{4} (x+10)(2x-2) = 90\sqrt{3}$$

$$2x^2 + 18x - 20 = 360$$

$$2x^2 + 18x - 380 = 0$$

$$x^2 + 9x - 190 = 0$$

$$(x+19)(x-10) = 0$$

$$x = -19 \quad x = 10 \checkmark$$

The circle C has equation  $x^2 + y^2 = 4$

$$r = 2$$

The circle is reflected in the line  $y = 2$  to give circle D

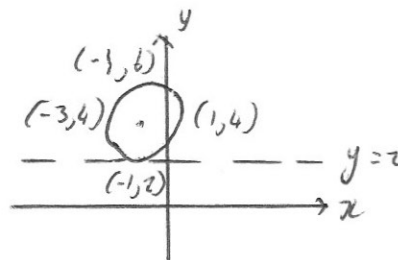
*reflected upwards.*

Circle D is translated by the vector

$$\begin{pmatrix} -1 \\ 0 \end{pmatrix} \quad \text{1 left}$$

to give circle E

Draw a sketch of circle E



Write down the coordinates of the centre of circle E.

$$(-1, 4)$$