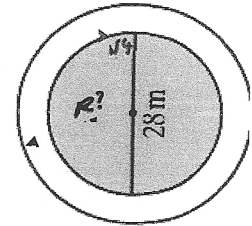


13. A circular swimming pool with a diameter of 28 metres has a wooden deck around its edge. If the deck has an area of  $60\pi\text{m}^2$ , find the width of the deck.



$$\text{Pool Area} = \pi (14)^2 = 196\pi$$

R = Radius of pool + deck?

$$\text{Pool + Deck Area} = 196\pi + 60\pi = 256\pi$$

$$256\pi = \pi R^2$$

$$R = \sqrt{256} = 16$$

$$\text{Width of deck} = 16 - 14 = 2\text{ m}$$

Remember...

Area of a disc =  $\pi r^2$

### Section 2.5 Forming quadratic equations from their roots

1. State (i) the sum and (ii) the product of the roots of each of the following quadratic equations.

(a)  $x^2 + 9x + 4 = 0$

(i)  $r_1 + r_2 = -9$

(ii)  $r_1 r_2 = 4$

(b)  $x^2 - 2x - 5 = 0$

(i)  $r_1 + r_2 = 2$

(ii)  $r_1 r_2 = -5$

Remember...

$$x^2 - (\text{Sum of Roots})x + (\text{Product of Roots}) = 0$$

Don't worry much about this section as the majority of the time we will need to take into consideration 'a'.

eg  $y = a$  [all the factors

$$y = -a(x-p)^2 + q$$

$$y = a(x-p)^2 + q$$