



Write down the formula to work out frequency density

$$fd = \frac{\text{frequency}}{\text{class width}}$$

y varies directly with the cube of x

y = 108 when x = 3

$$y \propto x^3$$

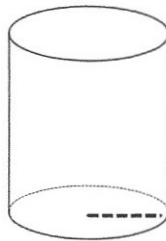
$$y = kx^3$$

$$108 = k \times 27$$

$$k = 4$$

Express y in terms of x

$$y = 4x^3$$



17cm

4cm

Calculate the surface area

$$\pi dh + \pi r^2 + \pi r^2$$

$$\pi \times 8 \times 17 + 2(\pi \times 4^2)$$

$$527.788 \text{ cm}^2$$

In Year 9 there are two classes, 9A and 9B. There are 20 students in Class 9A and 30 students in Class 9B.

The mean number of books read each month in Class 9A is 3.75

The mean number of books read each month in Year 9 is 3.2

Work out the mean number of books read each month in Class 9B.

Give your answer to 2 decimal places.

$$20 \times 3.75 = 75$$

$$50 \times 3.2 = 160$$

$$160 - 75 = 85$$

$$\frac{85}{30} = 2.83$$

Find the exact value of

$$\cos(30^\circ) + \tan(30^\circ)$$

(without using a calculator)

$$\cos 30 = \frac{\sqrt{3}}{2}$$

$$\tan 30 = \frac{\sqrt{3}}{3}$$

$$\frac{\sqrt{3}}{2} + \frac{\sqrt{3}}{3}$$

$$\frac{3\sqrt{3}}{6} + \frac{2\sqrt{3}}{6} = \frac{5\sqrt{3}}{6}$$