

28th March



Corbettmaths

Write 16 in the form 8^n

$$8^{\frac{4}{3}}$$

Rationalise the denominator

$$\frac{\sqrt{3}}{1 + \sqrt{6}} \times \frac{(1 - \sqrt{6})}{(1 - \sqrt{6})}$$

$$\frac{\sqrt{3} - \sqrt{18}}{1 - 6} = \frac{\sqrt{18} - \sqrt{3}}{6 - 1} = \frac{3\sqrt{2} - \sqrt{3}}{5}$$

The equation of a circle C, with centre O, is $x^2 + y^2 = 225$

$$r = 15$$

Write down 5 coordinates of points that lie on C.

$$\begin{matrix} (0, 15) & (0, -15) \\ (-15, 0) & (15, 0) \\ (9, 12) & (-9, -12) \\ (9, -12) & (12, 9) \end{matrix}$$

The speed limit on a road is 50km/h

It took Sam 60 seconds, correct to the nearest 10 seconds, to drive along a road that is 780m long, correct to 2 significant figures.

Could Sam have broken the speed limit? $\text{Max Speed} = \frac{\text{Max distance}}{\text{min time}}$

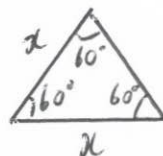
$$= \frac{785}{55} = 14.27 \text{ m/s}$$

yes

$$51.381 \text{ km/h}$$

The area of an equilateral triangle is 200cm^2

Find the length of each side. Give your answer to 2 decimal places.



$$\frac{1}{2} x^2 \sin 60 = 200$$

$$x^2 \sin 60 = 400$$

$$x^2 = 461.88...$$

$$x = 21.49 \text{ cm}$$