

15th October



Corbettmaths

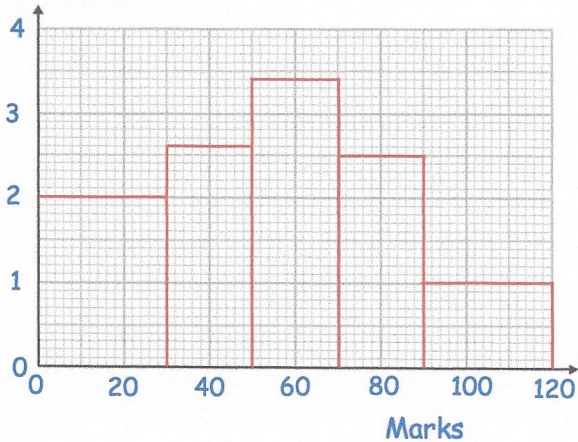
Conor says

$$\cos(45^\circ) = \frac{1}{\sqrt{2}} \times \frac{\sqrt{2}}{\sqrt{2}} = \frac{\sqrt{2}}{2}$$

Is he correct?

yes

Frequency Density



260 people sit a driving theory test. Their results are shown in this histogram.

10% of the people scored less than x marks

Find x  $10\% \text{ of } 260 = 26$   
 $13 \text{ marks}$

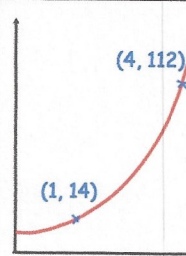
5% of people scored more than y marks.

Find y  $5\% \text{ of } 260 = 13$   
 $107 \text{ marks}$

The sketch shows a curve with equation  $y = ab^x$  where a and b are constants and  $b > 0$

The curve passes through the points (1, 14) and (4, 112)

Calculate the value of a and b



$(1, 14) \quad y = ab^x$   
 $14 = ab^1 \quad \text{---} \textcircled{1}$

$(4, 112) \quad 112 = ab^4$

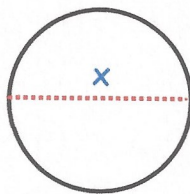
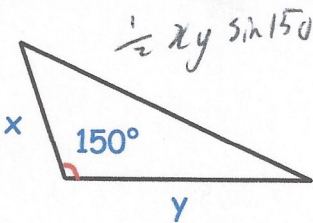
$\therefore b^3 = 8$

$b = 2$

sub into  $\textcircled{1}$

$14 = a \times 2$   
 $a = 7$

$a = 7 \quad b = 2$



The triangle and circle have the same area.

Express y in terms of x.

$$\pi \times \left(\frac{1}{2}x\right)^2$$

$$\frac{1}{4}xy = \frac{1}{4}x^2\pi$$

$$xy = x^2\pi$$

$$y = x\pi$$