

26th January



Corbettmaths

Express in the form 2^n

(a)

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

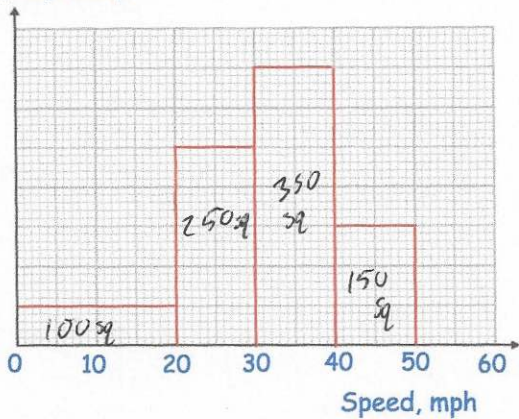
$$2^{-4}$$

(b)

$$2\sqrt{2}$$

$$2^1 \times 2^{\frac{1}{2}} = 2^{\frac{3}{2}}$$

Frequency Density



How many cars travelled less than 20mph?

$$100 \div 6.25 = 16 \text{ cars}$$

The histogram shows the speeds of cars travelling down a road.

24 cars travelled faster than 40mph.

$$150 \text{ sq} = 24 \text{ cars} \quad 1 \text{ car} = 6.25 \text{ sq}$$

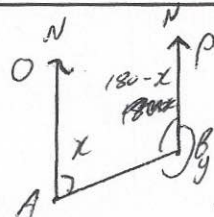
Estimate how many cars travelled between 25mph and 35mph.

$$175 + 175 = 300 \text{ sq}$$

$$300 \div 6.25 = 48 \text{ cars}$$

The bearing of A to B is x .
 x is less than 180° .

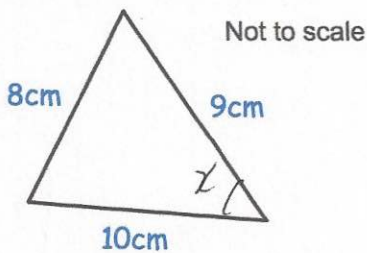
Prove the bearing of B to A is $(180 + x)^\circ$



Since $\angle OAB = x$
 $\angle PBA = 180 - x$
(co-interior angles)

Since angles at a point = 360°

$$y = 360 - \angle PBA = 360 - (180 - x) = 180 + x$$



Find the area of the triangle

Cosine Rule

$$\cos x = \frac{9^2 + 10^2 - 8^2}{2 \times 9 \times 10}$$

$$x = 49.458 \dots$$

Area $\frac{1}{2}ab \sin C$

$$\frac{1}{2} \times 9 \times 10 \times \sin 49.458 \dots$$

$$34.197 \text{ cm}^2$$