

24th August



Corbettmaths

Solve  $x^2 - 6x - 27 = 0$ 

$$(x - 9)(x + 3) = 0$$

$$x = 9 \text{ or } x = -3$$

There are 20 students in class 1.  
There are 10 students in class 2.

Both classes sit the same test.

The mean mark in class 1 is 70%.  
The mean mark in class 2 is 90%

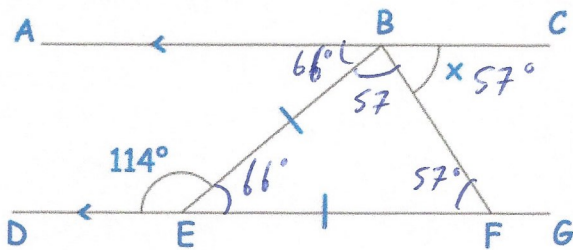
Work out the overall mean for both classes.

$$20 \times 70 = 1400$$

$$10 \times 90 = 900$$

$$\begin{array}{r} 1400 \\ + 900 \\ \hline 2300 \end{array}$$

$$2300 \div 30 = 76.66\%$$

Find the size of the angle  $x$ .

Give reasons for your answer.

$$\angle FEB = 66^\circ \text{ (straight line)}$$

$$\angle FEB \text{ \& } \angle EBF = 57^\circ \text{ (isosceles } \Delta)$$

$$\angle CBG = 57^\circ \text{ (alternate to } \angle BFE)$$

A drink is made from mixing orange juice and lemonade in the ratio 1:4  
 $1+4=5$

Lemonade costs £0.80 per litre.  
Orange juice costs £1.50 per litre.

Work out the cost of 4 litres of the drink.

$$4 \div 5 = 0.8$$

$$1 \times 0.8 = 0.8 \text{ L of Orange Juice}$$

$$4 \times 0.8 = 3.2 \text{ L of lemonade}$$

$$(3.2 \times 0.8) + (0.8 \times 1.5)$$

$$= \text{£}3.76$$

Solve the simultaneous equations

$$5x + 3y = 51 \quad \times 5$$

$$3x + 5y = 37 \quad \times 3$$

$$25x + 15y = 255$$

$$9x + 15y = 111$$

$$\begin{array}{r} 25x + 15y = 255 \\ - 9x + 15y = 111 \\ \hline 16x = 144 \end{array}$$

$$x = 9$$

$$45 + 3y = 51$$

$$3y = 6$$

$$y = 2$$