

10th September



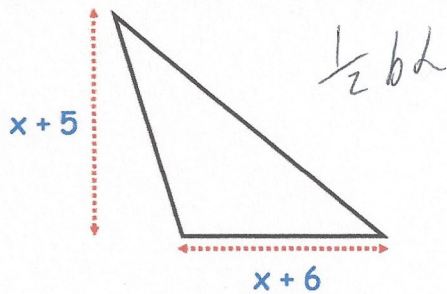
Corbettmaths

Bethan owns 10 shops and 5 restaurants.
She is going to visit three of her
businesses and writes her list in order.
The order will be:

shop, restaurant, shop
or
restaurant, shop, restaurant

How many different lists can Bethan
write?

$$\begin{aligned} \text{SRS} & 10 \times 5 \times 9 = 450 \\ \text{RSR} & 5 \times 10 \times 4 = 200 \\ & 650 \end{aligned}$$



Shown is a triangle with area 19cm^2 .
Find the value of x

$$\begin{aligned} \frac{1}{2}(x+6)(x+5) &= 19 \\ (x+6)(x+5) &= 38 \\ x^2 + 11x + 30 &= 38 \\ x^2 + 11x - 8 &= 0 \quad \text{using quadratic formula} \end{aligned}$$

$x = 0.68$
Not $x = -11.68$
 x

Solve $x^2 - 4x - 11 = 0$
using completing the square.

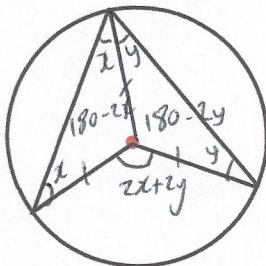
$$\begin{aligned} (x-2)^2 - 4 - 11 &= 0 \\ (x-2)^2 &= 15 \\ x-2 &= \pm \sqrt{15} \end{aligned}$$

$$x = 2 + \sqrt{15} \quad \text{or} \quad x = 2 - \sqrt{15}$$

Work out $2\sqrt{75} + 5\sqrt{27}$

$$\begin{aligned} 2(\sqrt{25} \times \sqrt{3}) + 5(\sqrt{9} \times \sqrt{3}) \\ 2 \times 5 \times \sqrt{3} + 5 \times 3 \times \sqrt{3} \\ 10\sqrt{3} + 15\sqrt{3} \end{aligned}$$

$$25\sqrt{3}$$



Prove that the angle at the centre is
twice the angle at the circumference.

$$2x+2y = 2(x+y)$$

QED