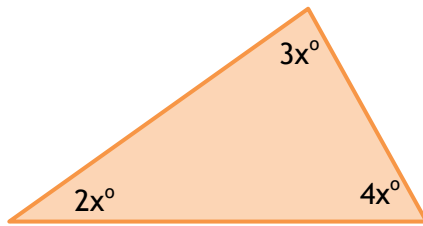


1. The angles in a triangle are  $2x^\circ$ ,  $3x^\circ$  and  $4x^\circ$ . Find the size of each angle.



Form an equation, then solve it

$$2x + 3x + 4x = 180$$

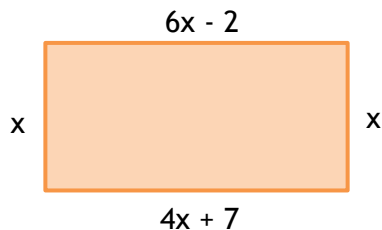
$$9x = 180$$

$$x = \frac{180}{9}$$

$$x = 20^\circ$$

The angles are  $40^\circ$ ,  $60^\circ$  and  $80^\circ$

2.



Peter says the length of this rectangle is  $6x - 2$  cm. Helen says it is  $4x + 7$  cm. They are both correct.

- Find the length of the rectangle
- Calculate the area of the rectangle

- $$6x - 2 = 4x + 7$$

$$2x - 2 = 7$$

$$2x = 9$$

$$x = \frac{9}{2} = 4.5 \text{ cm}$$

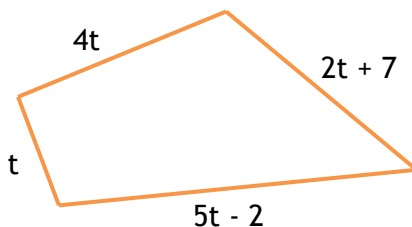
$$\text{Length} = 4 \times 4.5 + 7$$

$$= 18 + 7 = 25 \text{ cm}$$

- $$\text{Area} = 25 \times 4.5$$

$$= 112.5 \text{ cm}^2$$

3. The lengths of the sides of the quadrilateral are  $t$ ,  $4t$ ,  $2t + 7$  and  $5t - 2$  cm. The perimeter of the quadrilateral is 53cm. Find the length of each side.



$$t + 4t + 2t + 7 + 5t - 2 = 53$$

$$12t + 5 = 53$$

$$12t = 48$$

$$t = \frac{48}{12} = 4 \text{ cm}$$

The lengths are  $4\text{cm}$ ,  $16\text{cm}$ ,  $15\text{cm}$  and  $18\text{cm}$

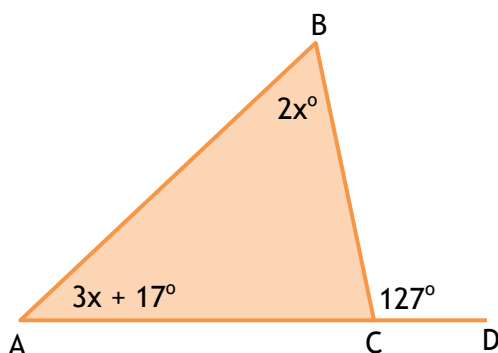
4. The line  $y = 3x - 1$  meets the line  $y = 5$  at the point P. What are the co-ordinates of P?

$$3x - 1 = 5$$

$$3x = 6$$

$$x = 2 \quad \mathbf{P = (2,5)}$$

5.



ACD is a straight line, and angle  $BCD = 127^\circ$ . By writing an equation in terms of  $x$  work out the value of angle BAC.

$$\text{Angle } BCA = 180 - 127 = 53^\circ$$

$$2x + 3x + 17 + 53 = 180$$

$$5x + 70 = 180$$

$$5x = 110$$

$$x = \frac{110}{5} = 22^\circ$$

$$\text{Angle } BAC = 3 \times 22 + 17 = 66 + 17 = 83^\circ$$