



Solve, giving your answers to one decimal place.

$$x^2 - 6x - 20 = 0$$

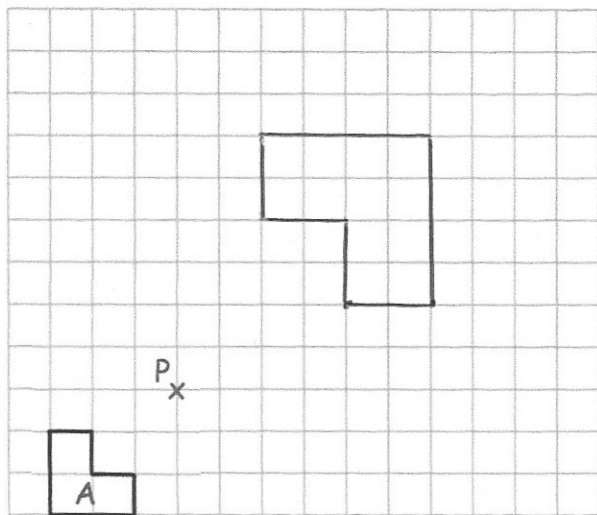
$$a = 1 \quad b = -6 \quad c = -20$$

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

$$x = \frac{6 \pm \sqrt{36 - (-80)}}{2}$$

$$x = \frac{6 \pm \sqrt{116}}{2}$$

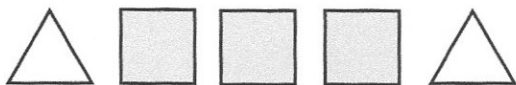
$$x = 8.4 \quad \text{or} \quad x = -2.4$$



Enlarge shape A by scale factor -2 , using the point P as centre of enlargement.

Write down the gradient of a line that is perpendicular to $y = 8x - 2$

$$-\frac{1}{8}$$



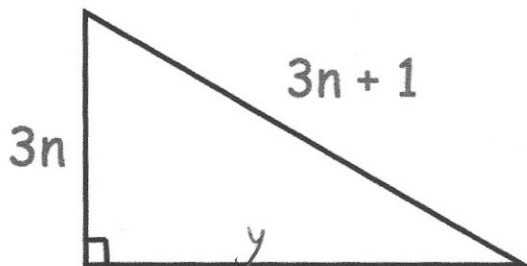
Sophie selects a shape at random, then replaces it. She then selects another.

Find the probability that she selects one of each shape.

$$\frac{3}{5} \times \frac{3}{5} = \frac{9}{25} \quad \left. \begin{array}{l} \text{Some} \\ \frac{13}{25} \end{array} \right\}$$

$$\frac{2}{5} \times \frac{2}{5} = \frac{4}{25}$$

$$1 - \frac{13}{25} = \frac{12}{25}$$



Find an expression for the third side.

$$(3n)^2 + y^2 = (3n+1)^2$$

$$9n^2 + y^2 = 9n^2 + 6n + 1$$

$$y^2 = 6n + 1$$

$$y = \sqrt{6n + 1}$$