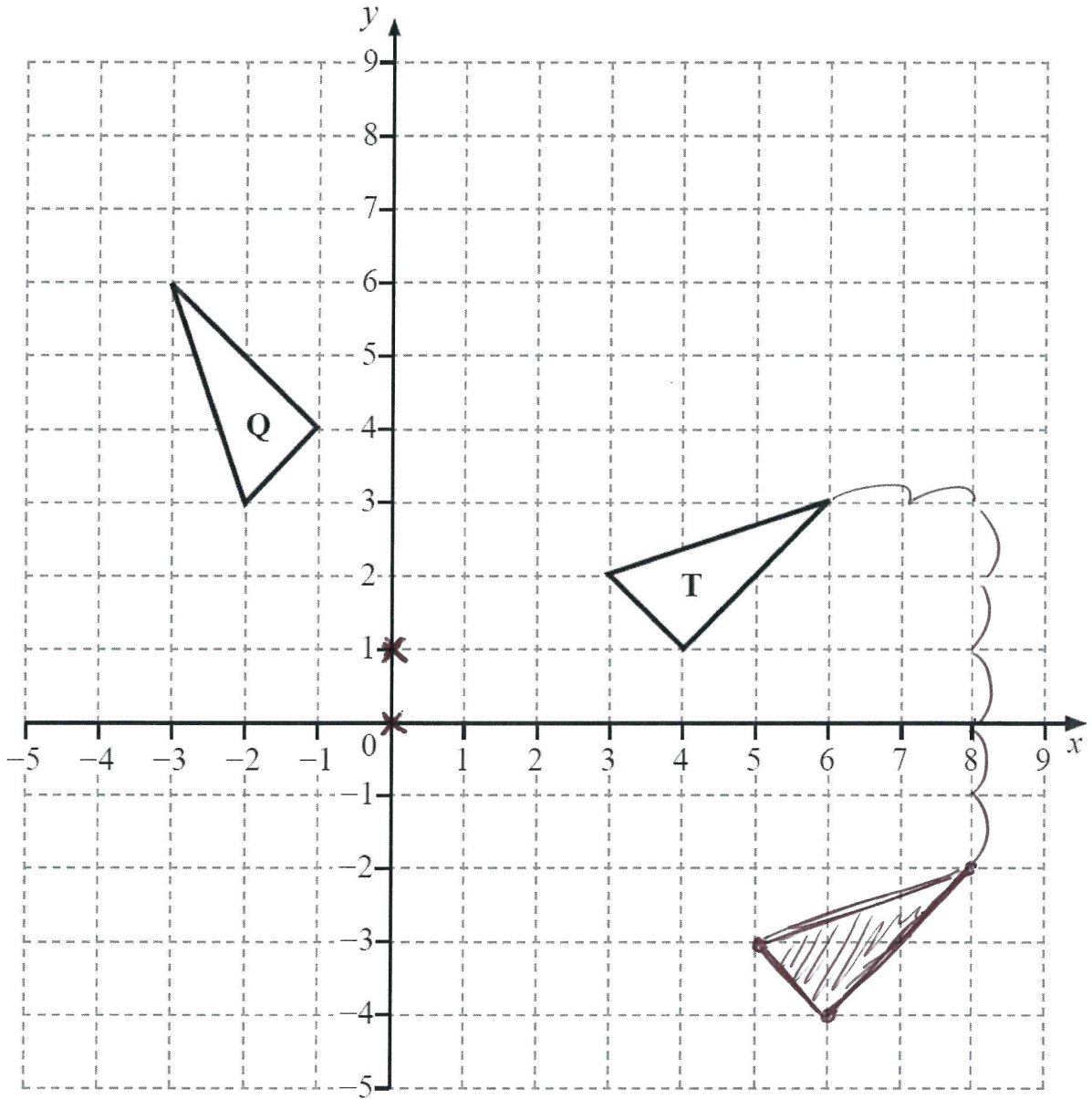


# M6 = 23 days to go!

15



(a) Describe fully the **single** transformation which maps triangle **T** onto triangle **Q**.

Answer Rotation  $90^\circ$  anti-clockwise around  $(0,0)$  [3]

(b) On the grid, draw the image of triangle **T** after a translation  $\begin{pmatrix} 2 \\ -5 \end{pmatrix}$ . [2]

Translate  $\left( \begin{array}{c} \leftarrow \rightarrow \\ \uparrow \downarrow \end{array} \right) \begin{pmatrix} 2 \\ -5 \end{pmatrix} \begin{array}{c} \rightarrow \\ \downarrow \end{array}$

16 A six-sided dice is rolled 800 times.

The table below shows the relative frequency of scoring a six after different numbers of rolls.

Experimental Probability

Number of rolls	Relative frequency of a six	
100	0.3	30%
200	0.26	26%
300	0.27	27%
500	0.23	23%
800	0.25	25%

(a) How many times was a six scored after 300 rolls?

Show how you obtained your answer.

$$27\% \text{ of } 300$$

$$27 + 27 + 27$$

Answer 81 [2]

(b) How many sixes would you expect to get if a **fair** six-sided dice was rolled 300 times?

$$\text{Fair Dice } p(\text{score six}) = \frac{1}{6}$$

$$\begin{aligned} \text{Expected} &= 300 \times \frac{1}{6} \\ &= 50 \end{aligned}$$

Answer 50 [2]