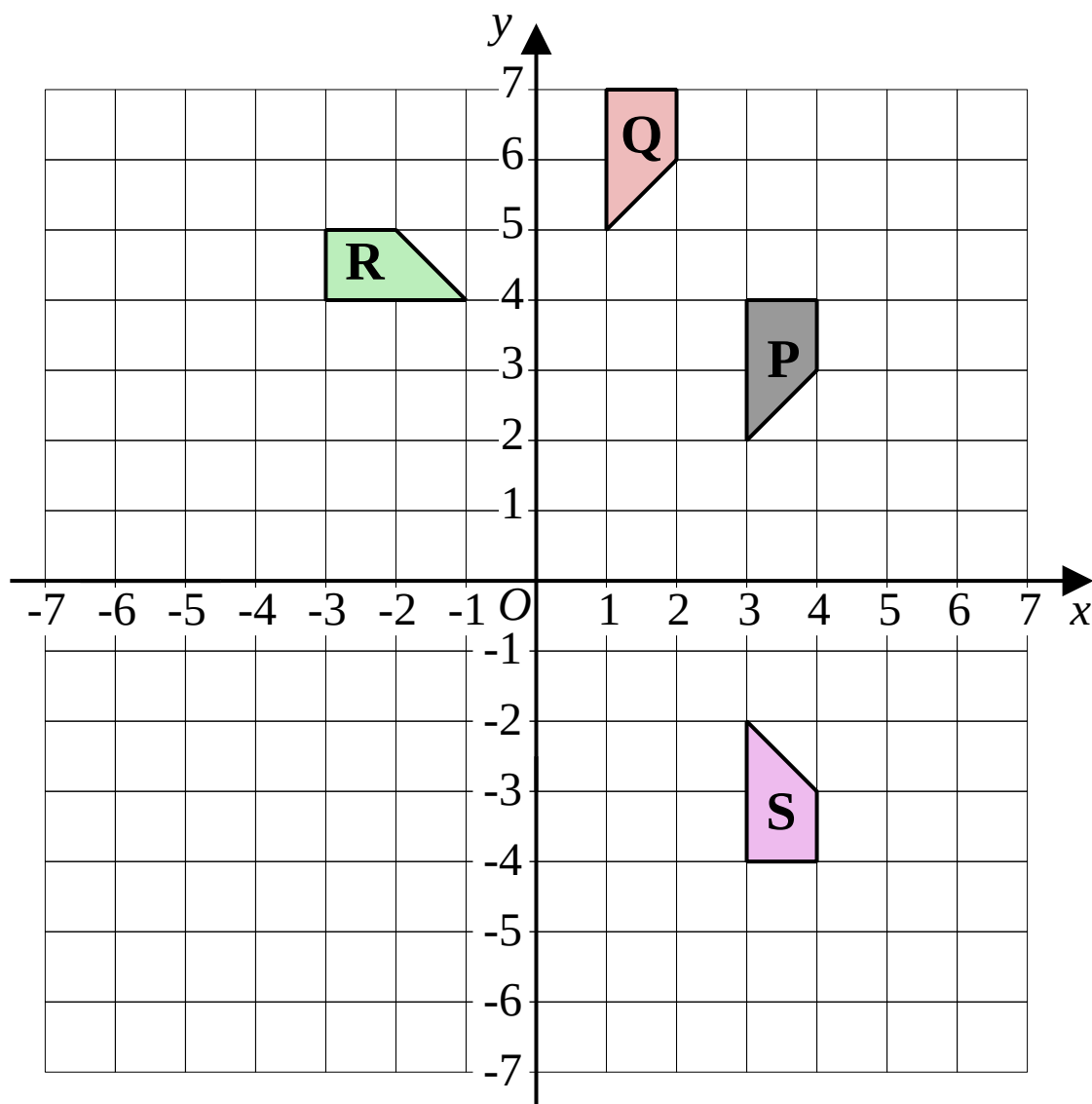


Mark Scheme
Mathematics Paper 1
Monday 21st November 2022

Year 10 : Fourth Form

Answer 1



[2, 2, 1 marks]

Answer 2

(a)

		purple dice			
		1	2	3	4
green dice	1	2	3	4	5
	2	3	4	5	6
	3	4	5	6	7
	4	5	6	7	8

[1 mark]

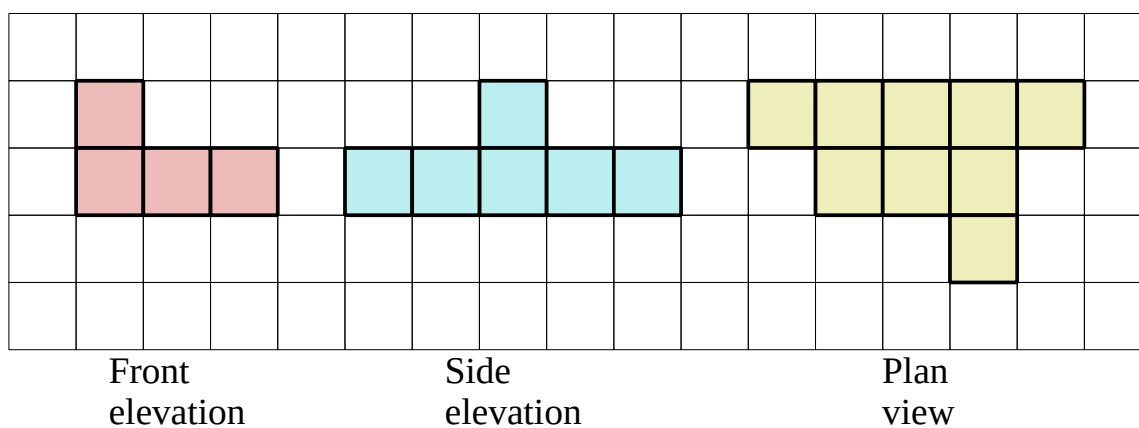
(b) (i) $p(4) = \frac{3}{16}$ (or 0.1875)

[1 mark]

(ii) $p(\geq 3) = \frac{15}{16}$ (or 0.9375)

[1 mark]

Answer 3



[3 marks]

Answer 4

(i) $30 \times 12 = 360$ metres

[1 mark]

(ii) $0.5 \times 30 \times 12 = 180$ metres

[2 marks]

(iii)
$$\begin{aligned} \text{Average speed} &= \frac{\text{total distance}}{\text{total time}} \\ &= \frac{540}{60} \\ &= 9 \text{ m s}^{-1} \end{aligned}$$

[2 marks]

Answer 5

Translation by $\begin{pmatrix} 5 \\ -6 \end{pmatrix}$

[2 marks]

Answer 6

{ 1, 9, 11 }

[2 marks]**Answer 7**

Get the data in order;

12 13 15 16 18 18 20

$$\frac{7 + 1}{4} = 2$$

Lower Quartile is 2

Upper Quartile is 18

Interquartile range is 16

[3 marks]**Answer 8****(i)** 4 km $\equiv$ 4000 metres**[1 mark]****(ii)** 50 minutes $\equiv$ 3000 seconds**[1 mark]**

$$\begin{aligned} \textbf{(iii)} \qquad \text{speed} &= \frac{\text{distance}}{\text{time}} \\ &= \frac{4000}{3000} \\ &= \frac{4}{3} \text{ m s}^{-1} \end{aligned}$$

[1 mark]**Answer 9**

$$\begin{aligned} \textbf{(i)} \quad p(\text{win, win}) &= 0.9 \times 0.9 \\ &= 0.81 \end{aligned}$$

[2 marks]

$$\begin{aligned} \textbf{(ii)} \quad \text{Easy method is } 1 - \text{part (i) answer} \\ &= 1 - 0.81 \\ &= 0.19 \end{aligned}$$

[2 marks]