

Mark Scheme
Mathematics Paper 2
Tuesday 22nd November 2022

Year 10 : Fourth Form

Answer 1

(i)

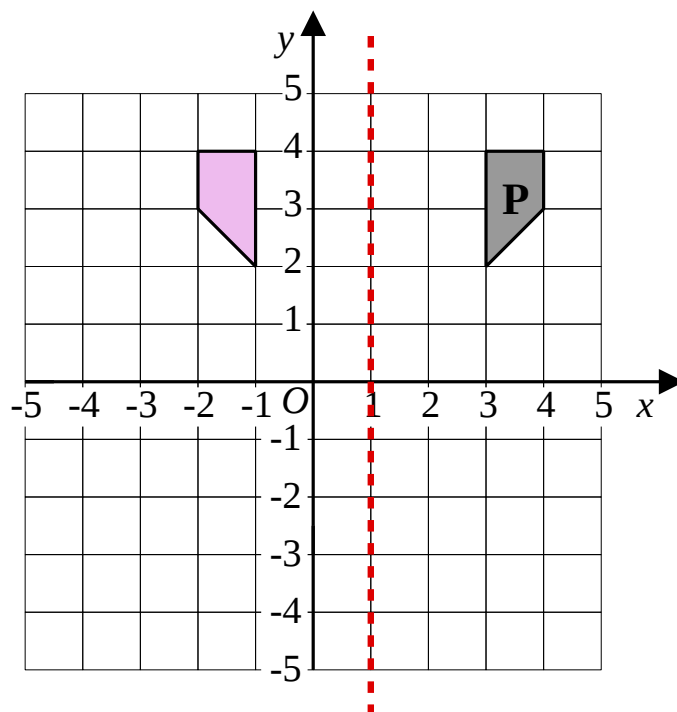
Activity	Film	Run	Eat	Sleep
Probability	<i>0.35</i>	<i>0.15</i>	<i>0.2</i>	<i>0.3</i>

[2 marks]

(ii) $0.35 \times 80 = 28$ times

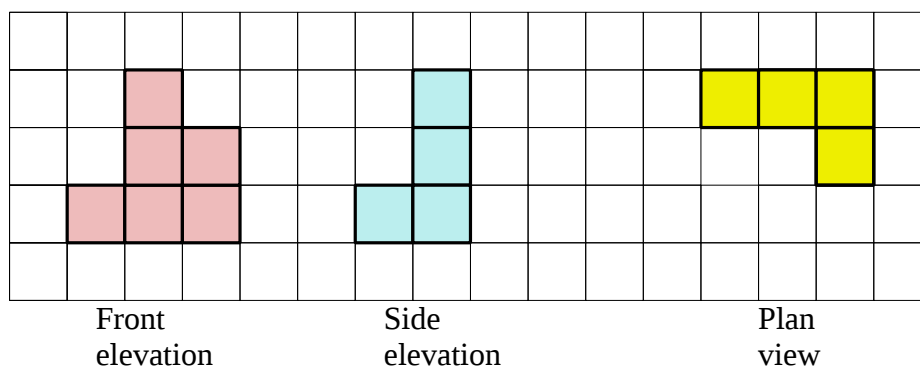
[2 marks]

Answer 2



[2 marks]

Answer 3



[2 marks]

Answer 4

Score	Frequency
1	12
2	17
3	10
4	9
5	4
6	8

$$\begin{aligned} \text{(a) mean} &= \frac{(1 \times 12) + (2 \times 17) + (3 \times 10) + (4 \times 9) + (5 \times 4) + (6 \times 8)}{60} \\ &= \frac{12 + 34 + 30 + 36 + 20 + 48}{60} \\ &= \frac{180}{60} \\ &= 3 \end{aligned}$$

[3 marks]

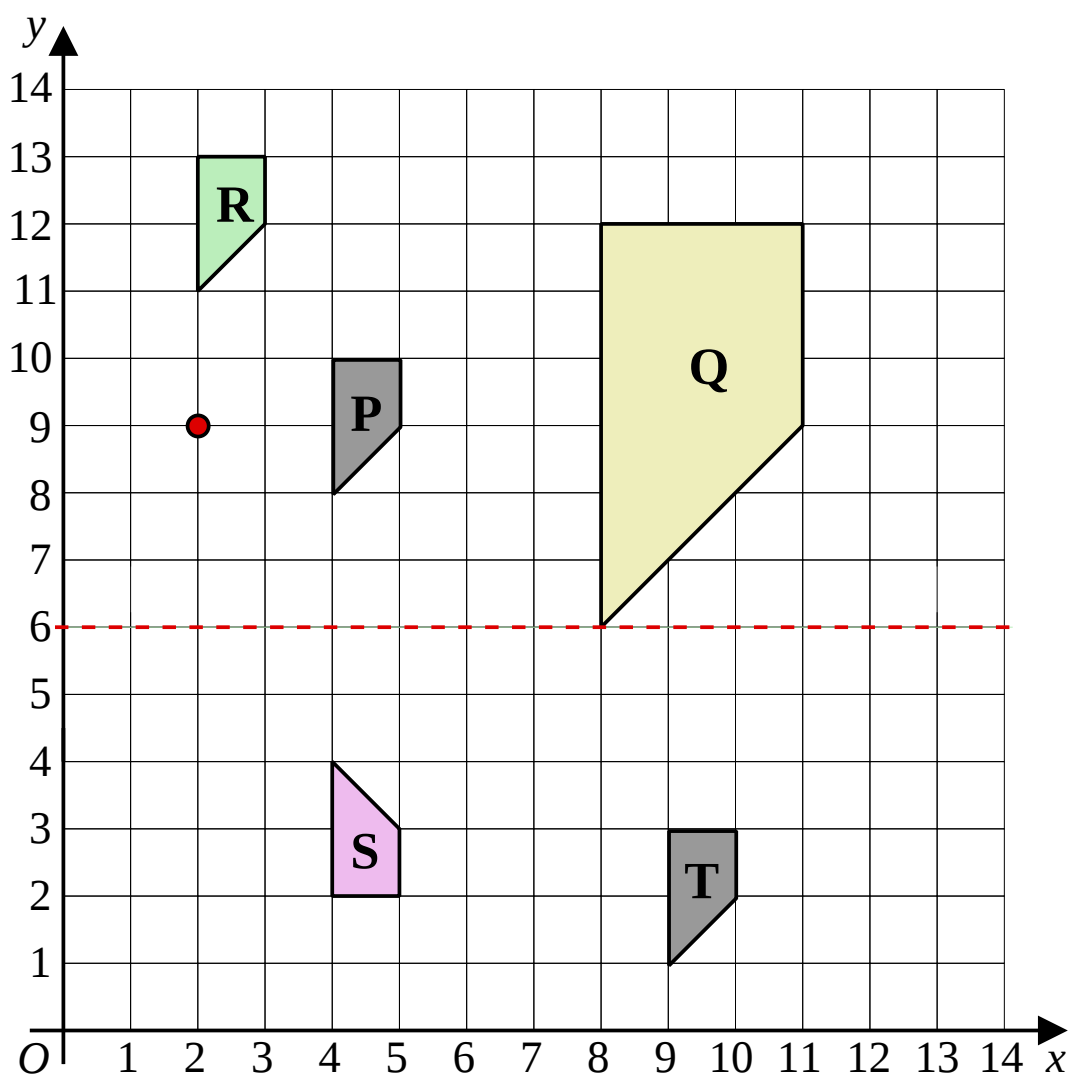
$$\text{(b) (i) } p(4) = \frac{9}{60} = \frac{3}{20} = 0.15$$

[1 mark]

$$\text{(ii) } p(5 \text{ or } 6) = \frac{12}{60} = \frac{1}{5} = 0.2$$

[2 marks]

Answer 5



(i) Q

[2 marks]

(ii) R

[2 marks]

(iii) S

[2 marks]

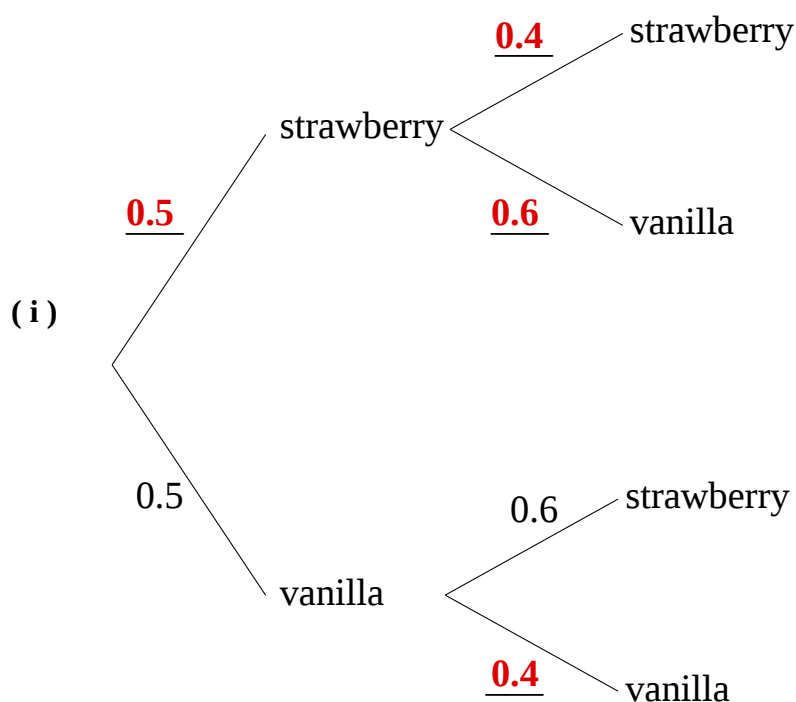
(iv) Translation by $\begin{pmatrix} 5 \\ -7 \end{pmatrix}$

[2 marks]

Answer 6**(i)** Modal class is $4.5 \leq w < 5.5$ **[1 mark]****(ii)**

Weight, w, kg	Frequency	Mid-Interval
$1.5 \leq w < 2.5$	3	2
$2.5 \leq w < 3.5$	6	3
$3.5 \leq w < 4.5$	10	4
$4.5 \leq w < 5.5$	12	5
$5.5 \leq w < 6.5$	9	6

$$\begin{aligned}
 \text{mean} &= \frac{(2 \times 3) + (3 \times 6) + (4 \times 10) + (5 \times 12) + (6 \times 9)}{40} \\
 &= \frac{6 + 18 + 40 + 60 + 54}{40} \\
 &= \frac{178}{40} \\
 &= 4.45 \text{ kg}
 \end{aligned}$$

[3 marks]**Answer 7****First doughnut****Second doughnut****[2 marks]****(ii)** $0.5 \times 0.4 = 0.2$ **[2 marks]**