



THIRD SPACE
LEARNING

Mathematics

Paper 2













(Calculator)

Foundation Tier

Mark Scheme

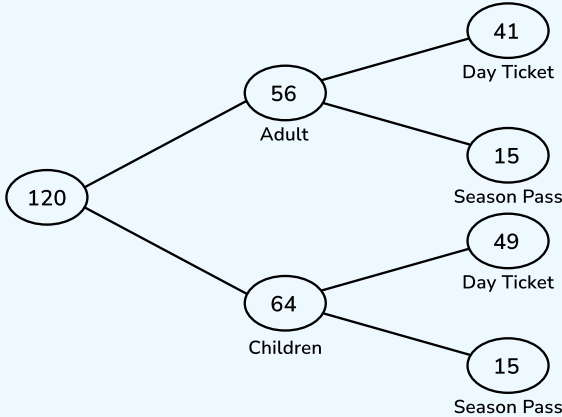
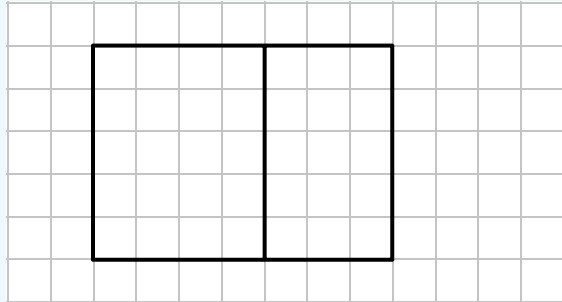
Edexcel GCSE

SET 2

| Question | Working | Answer | Notes | | | | | | | | |
|-----------|--|--|--|---------|---|-----------|---|----------|---|--|--------|
| Q1 | | $\frac{3}{4}$ | B1 cao | | | | | | | | |
| Q2 | $230 \div 100 = 2.3$ | $2.3m$ | B1 cao | | | | | | | | |
| Q3 | | Two of 1, 3, 7, 21 | B1 Two correct factors | | | | | | | | |
| Q4 | | 4.41 | B1 oe (e.g. $\frac{441}{100}$) | | | | | | | | |
| Q5 | | 27 | B1 cao | | | | | | | | |
| Q6 | $2 \times \text{£}4.99 + \text{£}2.50 + \text{£}1.95 + 2 \times \text{£}2.10$ $= \text{£}18.63$ $\text{£}20 - 18.63 = \text{£}1.37$ | £1.37 | M1 Attempt at $2 \times \text{£}4.99 + \text{£}2.50 + \text{£}1.95 + 2 \times \text{£}2.10$ A1 £18.63 A1 £20 - £18.83 = £1.37 | | | | | | | | |
| Q7 | | $\frac{n}{2}$ or $n \div 2$ | B1 cao | | | | | | | | |
| Q8a | <table><tr><td>Monday</td><td></td></tr><tr><td>Tuesday</td><td></td></tr><tr><td>Wednesday</td><td></td></tr><tr><td>Thursday</td><td></td></tr></table> | Monday |  | Tuesday |  | Wednesday |  | Thursday |  | | B1 cao |
| Monday |  | | | | | | | | | | |
| Tuesday |  | | | | | | | | | | |
| Wednesday |  | | | | | | | | | | |
| Thursday |  | | | | | | | | | | |
| Q8b | Tuesday: $3 \times 8 + 6 = 30$ | Yes, 30 students had school dinners. 30 is more than half of 56. | M1 30 students had school dinners B1 Correct statement | | | | | | | | |
| Q9a | $5 \times 6 = 30$ $30 + 10 = 40$ | 40 | A1 cao | | | | | | | | |

| Question | Working | Answer | Notes |
|-------------|---|---------------|--|
| Q9b | <p>Example solutions:</p> <p>Input \longrightarrow $\boxed{\times 6}$ \longrightarrow $\boxed{-2}$ \longrightarrow Output</p> <p>Input \longrightarrow $\boxed{\times 5}$ \longrightarrow $\boxed{+1}$ \longrightarrow Output</p> <p>Input \longrightarrow $\boxed{\times 4}$ \longrightarrow $\boxed{+4}$ \longrightarrow Output</p> <p>Input \longrightarrow $\boxed{\times 3}$ \longrightarrow $\boxed{+7}$ \longrightarrow Output</p> | | <p>A1 1 correct number machine</p> <p>A1 2 correct number machines</p> |
| Q10a | $4 + 11 + 7 + 9 + 4 + 1 + 2 + 6 = 44$ $44 \div 8 = 5.5$ | 5.5 | <p>M1 Attempt to add all numbers and divide by 8 (maximum one number omitted)</p> <p>A1 cao</p> |
| Q10b | <p>1 2 4 4 6 7 9 11</p> <p>Median: $\frac{4+6}{2} = 5$</p> | 5 | <p>M1 Numbers in order and attempt to find middle value</p> <p>A1 cao</p> |
| Q10c | Square numbers: 1, 4, 9 | $\frac{4}{8}$ | <p>M1 Square numbers identified or '4 square numbers' seen</p> <p>A1 $\frac{4}{8}$ oe</p> |
| Q11a | <p>09 15 to 16 45 is 7.5 hours</p> <p>$7.5 \times £11.20 = £84$</p> | £84 | <p>M1 7.5 hours seen</p> <p>A1 cao</p> |
| Q11b | <p>16 45 + 12 minutes = 16 53</p> <p>The earliest bus he could catch is 17 03 which would get him to Kingfisher Close at 17 17</p> | 17 21 | <p>M1 17 03 bus identified</p> <p>M1 He gets off bus at 17 17, an attempt to add 4 minutes</p> <p>A1 17 21</p> |

| Question | Working | Answer | Notes |
|-------------|---|-------------------------------|---|
| Q12a | $20 - 11 = 9$ | $x = 9$ | A1 cao |
| Q12b | $6 + 5 = 11$ $11 \times 3 = 33$ | $x = 33$ | M1 $6 + 5 = 11$ or $\frac{x}{3} = 11$ seen A1 cao |
| Q13 | $\frac{10}{12} = \frac{50}{60}$ $\frac{15}{20} = \frac{45}{60}$ $\frac{11}{15} = \frac{44}{60}$ | No, Jack's score was the best | M1 Attempt to put fractions over common denominator with at least one correct M1 Three correct fractions with common denominator B1 Correct statement |
| Q14 | $2 + 3 + 4 = 9$ $180 \div 9 = 20$ $2 \times 20 = 40$ | 40° | M1 Attempt to divide 180 in ratio 2 : 3 : 4 M1 $(180 \div 9) = 20$ A1 cao |
| Q15a | $\frac{\sqrt{37 + 2.9}}{5.1} = 1.23855778$ | 1.23855778 | M1 6.316644679 seen A1 cao |
| Q15b | | 1.24 | B1 cao |
| Q16 | 1. She should have converted $0.1m$ to $10cm$ 2. She has written cm^2 instead of cm^3 | | B1 One correct statement B1 Two correct statements |
| Q17 | $h + 7 = 6p$ $\frac{h + 7}{6} = p$ | $p = \frac{h + 7}{6}$ | M1 Correct first step adding 7 A1 cao |

| Question | Working | Answer | Notes |
|----------|--|-----------------|--|
| Q18a |  | | <p>M1 56 adults and 64 children</p> <p>M1 15 and 41 in correct place</p> <p>M1 $\frac{3}{4}$ of 120 = 90 so 90 day tickets seen or implied</p> <p>A1 All values correct</p> |
| Q18b | | $\frac{15}{64}$ | <p>A1 correct numerator <i>ft</i> from their part a</p> <p>A1 cao</p> |
| Q19a |  | | <p>M1 Correct shape</p> <p>A1 Fully correct rectangle with measurements</p> <p>5cm by 7cm, split as per the diagram</p> |
| Q19b | | 12 | B1 cao |

Question

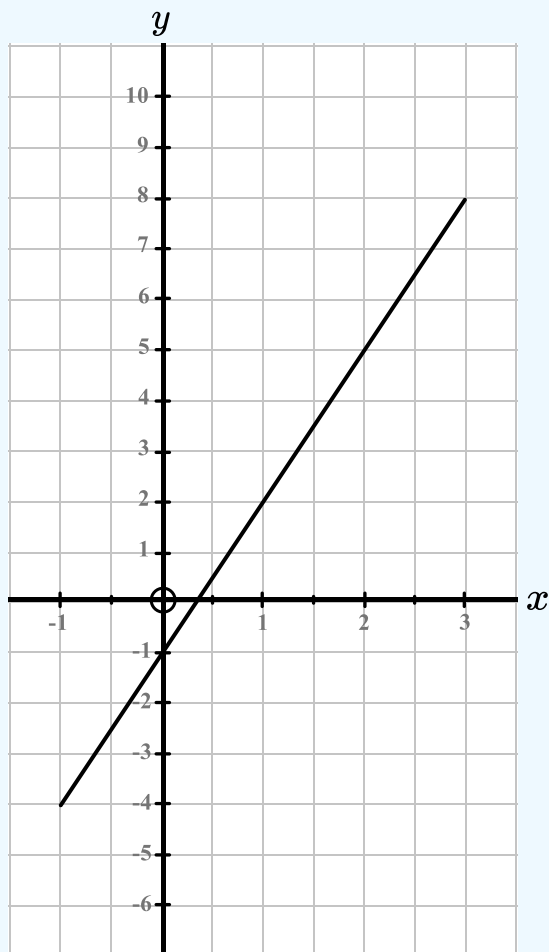
Working

Answer

Notes

Q20

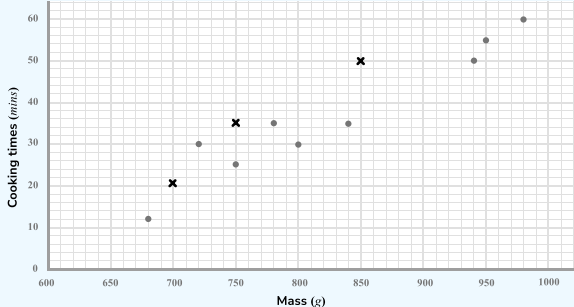
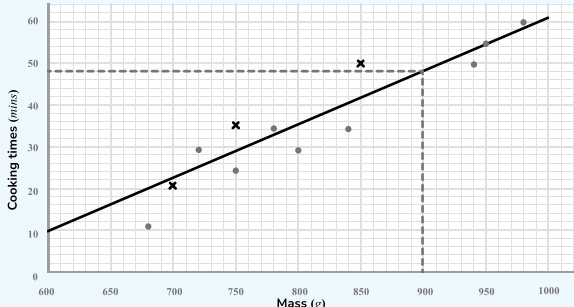
| | | | | | |
|-----|----|----|---|---|---|
| x | -1 | 0 | 1 | 2 | 3 |
| y | -4 | -1 | 2 | 5 | 8 |



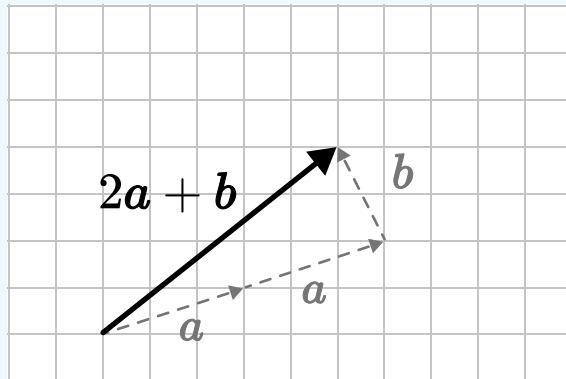
M1 Table of values or pairs of values with at least 3 correct

M1 At least 3 points plotted correctly

A1 All points plotted correctly and joined with a straight line

| Question | Working | Answer | Notes |
|----------|--|------------|---|
| Q21a |  | | <p>M1 One point plotted correctly</p> <p>A1 All three points correct</p> |
| Q21b | | | B1 Positive correlation |
| Q21c |  | 48 minutes | <p>M1 Line of best fit drawn</p> <p>A1 Answer in range 46 - 50 minutes</p> |
| Q22 | <p>Area of trapezium: $\frac{1}{2} \times (6 + 9) \times 4 = 30\text{cm}^2$</p> <p>40% of 30 = 12</p> <p>Area of rectangle = $30 + 12 = 42\text{cm}^2$</p> <p>$42 \div 4 = 10.5\text{cm}$</p> | 10.5cm | <p>A1 Area of trapezium = 30cm^2</p> <p>M1 <i>ft</i> 40% of their area correct</p> <p>M1 Area of rectangle = 42cm^2</p> <p>A1 cao</p> |

| Question | Working | Answer | Notes |
|------------|---|----------------------|---|
| Q23 | $500 \div 5 = 100\text{g}$ to make 4 doughnuts $100 \times 3 = 300\text{g}$ to make 12 doughnuts $300 \times 4 = 1200\text{g}$ to make 4 boxes of doughnuts $1200\text{g} < 1.5\text{kg}$ so she has enough. | Yes | M1 Attempt to use proportion to find the amount for flour for 12 or 48 doughnuts M1 300g for 12 doughnuts M1 1200g or 1.2kg seen A1 Correct statement following correct working |
| Q24 | $9a + 6b = 60$ $8a - 6b = 25$ $17a = 85$ $a = 5$ $3 \times 5 + 2b = 20$ $15 + 2b = 20$ $2b = 5$ $b = 2.5$ | $a = 5$ $b = 2.5$ | M1 Convert both equations to make coefficients of a or b equal and attempt to add or subtract equations (correct operation based on the equations) A1 $a = 5$ or $b = 2.5$ A1 Both values correct |
| Q25 | $AC^2 = 13^2 - 5^2 = 144$ $AC = 12\text{cm}$ $\tan(x) = \frac{12}{10}$ $x = \tan^{-1}\left(\frac{12}{10}\right)$ $x = 50.19442891$ | 50.2° | M1 $13^2 - 5^2$ seen or implied A1 $AC = 12\text{cm}$ M1 $\tan(x) = \frac{\text{their } AC}{10}$ oe A1 cao |

| Question | Working | Answer | Notes | | | | | | |
|------------------------|--|------------------------|---|-----------|---|-------------------|---|--|-------------------------|
| Q26 | <table><tr><td>$y = \frac{1}{2}x + 3$</td><td>B</td></tr><tr><td>$y = x^3$</td><td>D</td></tr><tr><td>$y = \frac{1}{x}$</td><td>C</td></tr></table> | $y = \frac{1}{2}x + 3$ | B | $y = x^3$ | D | $y = \frac{1}{x}$ | C | | A1 per correct response |
| $y = \frac{1}{2}x + 3$ | B | | | | | | | | |
| $y = x^3$ | D | | | | | | | | |
| $y = \frac{1}{x}$ | C | | | | | | | | |
| Q27 |  | | M1 Vector <i>a</i> or <i>b</i> drawn on grid M1 Vector 2 <i>a</i> seen or implied A1 Correct vector 2 <i>a</i> + <i>b</i> Or M1 $2\begin{pmatrix} 3 \\ 1 \end{pmatrix} + \begin{pmatrix} -1 \\ 2 \end{pmatrix}$ M1 $\begin{pmatrix} 5 \\ 4 \end{pmatrix}$ A1 Correct vector drawn | | | | | | |

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