



THIRD SPACE
LEARNING

Mathematics

Paper 2

(Calculator)

Foundation Tier

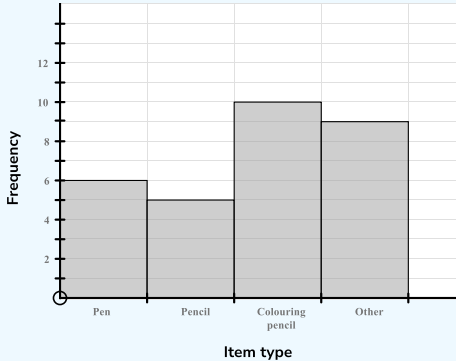
Mark Scheme

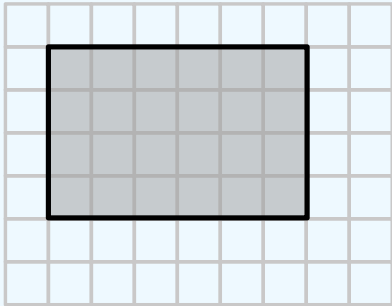
Edexcel GCSE

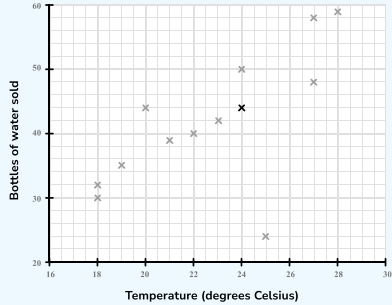
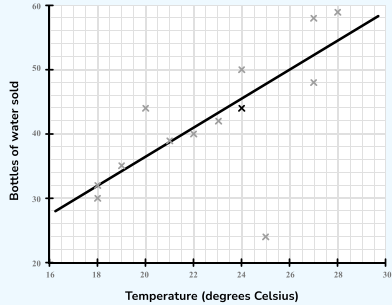
SET 1B

Question	Working	Answer	Notes
Q1		-3, -1, 3, 10, 13	B1 cao
Q2		23cm	B1 cao
Q3		$\frac{45}{100}$	B1 oe
Q4		$\frac{1}{3}$	B1 cao
Q5a		5.7cm	B1 Answer in range 5.6 - 5.8cm oe B1 Must include correct units
Q5b		53°	B1 Answer in range 52° - 54°
Q6		210 000	B1 cao
Q7	$\pounds 7.99 + 2 \times \pounds 8.49 = \pounds 24.97$ $\pounds 30 - \pounds 24.97 = \pounds 5.03$	£5.03	P1 Adding three values to find the total price P1 Subtracting from £30 A1 £5.03
Q8a		$3x + 15$	B1 cao
Q8b	$21y + 28 - 10y - 5$ $11y + 23$	$11y + 23$	M1 $21y + 28$ seen or $- 10y - 5$ A1 $11y + 23$
Q8c		$x = 3$ or $x = -\frac{5}{2}$	A1 $x = 3$ A1 $x = -\frac{5}{2}$

Question	Working	Answer	Notes															
Q9	$\frac{33}{40} = \frac{99}{120}$ $\frac{24}{30} = \frac{96}{120}$ $\frac{7}{12} = \frac{70}{120}$	$\frac{7}{12}, \frac{24}{30}, \frac{33}{40}$ Sarah, Claire, Jenna	M1 At least two fractions written with a common denominator M1 All three fractions correctly written with common denominator A1 Order correct. May be given as fractions or names															
Q10a	<table><tr><td>17</td><td>6</td><td></td></tr><tr><td>18</td><td>0 4 4 5 8</td><td></td></tr><tr><td>19</td><td>2 6 8 9</td><td></td></tr><tr><td>20</td><td>0 1 4 4 5</td><td></td></tr><tr><td>21</td><td>1 3 4</td><td></td></tr></table> <div>Key : 17 6 = 176</div>	17	6		18	0 4 4 5 8		19	2 6 8 9		20	0 1 4 4 5		21	1 3 4			M1 At least 15 items placed into a stem and leaf diagram M1 All 18 items placed A1 All items ordered A1 A correct key
17	6																	
18	0 4 4 5 8																	
19	2 6 8 9																	
20	0 1 4 4 5																	
21	1 3 4																	
Q10b	$\frac{198 + 199}{2} = 198.5$	198.5	M1 198 and 199 identified. May be marked on diagram. Must be unambiguous. A1 198.5															
Q10c		175 is smaller than any of the values - we would expect the mean to be roughly in the middle	C1 A correct statement															

Question	Working	Answer	Notes
Q11			<p>M1 5 pencils or 6 pens seen</p> <p>A1 5 pencils, 6 pens, 9 others</p> <p>B1 Frequency correctly labelled</p> <p>M1 At least 3 bars correct</p> <p>A1 Fully correct bar chart</p>
Q12	$C = 25 \times 3 + 100 = \text{£}175$	£175	<p>M1 3 substituted into formula</p> <p>A1 £175</p>
Q13	$\text{£}325 \div 5 = \text{£}65$ per room per night 21 nights booked $21 \times \text{£}65 = \text{£}1365$	£1365	<p>M1 £65 per room per night seen or implied</p> <p>M1 21 nights seen</p> <p>A1 £1365</p>
Q14a	Sam: s , Anne: $3s$, Aurelia: $s - 26$ $s + 3s + s - 26 = 114$ $5s - 26 = 114$		<p>C1 Sam: s, Anne: $3s$, Aurelia: $s - 26$</p> <p>C1 Correct simplification to reach $5s - 26 = 114$</p>
Q14b	$5s - 26 = 114$ $5s = 140$ $s = 28$	Anne: 84 Sam: 28 Aurelia: 2	<p>M1 Solving equation to give $s = 28$</p> <p>A1 All ages correct</p>

Question	Working	Answer	Notes
Q15	$1.5 \times 60 = 90$ $90 \div 72 = 1.25$ hours $1.5 - 1.25 = 0.25$ hours = 15 minutes	15 minutes	M1 $1.5 \times 60 = 90$, $90 \div 72 = 1.25$ hours A1 $1.5 - 1.25 = 0.25$ hours A1 15 minutes
Q16		$3.815 \leq w < 3.825$	A1 3.815 correctly placed A1 3.825 correctly placed
Q17a		$4n - 5$	M1 $4n$ or difference of 4 seen A1 $4n - 5$
Q17b		No, all the terms are odd	C1 No C1 All terms are odd or other correct explanation
Q17c	-1, 3, 7, 11, 15, 19, 23, 27, 31, 35, 39, ... 11, 17, 23, 29, 35, 41,	23 and 35	M1 Correct terms for $6n + 5$ listed A1 23 and 25
Q18	$7 \times 10 = 70$ $\frac{1}{2} \times 4 \times 10 = 20$ $\frac{1}{2} \times \pi \times 5^2 = 39.2699...$ $70 - 20 + 39.2699... = 89.2699...$	89.27cm^2	M1 Area of rectangle: 70cm^2 and area of triangles 20cm^2 M1 Area of semi circle $39.2699.... \text{cm}^2$ A1 $70 - 20 + 39.2699... = 89.2699...$ A1 Correctly rounded 89.27cm^2
Q19			M1 One side length correct (6 or 4) A1 Rectangle with side lengths 6 and 4

Question	Working	Answer	Notes
Q20a			B1 Point plotted correctly
Q20b			<p>M1 Reasonable line of best fit drawn</p> <p>A1 Answer in range 49 - 51. Must see evidence that this has come from graph</p>
Q20c		24	B1 cao
Q21	$0.75 \times 72 = 54$ Yoghurt: $\frac{10}{10} \times 8 = 8\text{g}$ Chicken: $\frac{24}{4} \times 3 = 18\text{g}$ Peanuts: $\frac{26}{10} \times 4 = 10.4\text{g}$ Beans: $23 \times 2 = 46\text{g}$ $8 + 18 + 10.4 + 46 = 82.4\text{g}$	He ate more than his recommended daily intake.	<p>P1 Finding the amount of protein Badar requires by multiplying 0.75 by 72</p> <p>P1 Correctly finding protein amounts for two of the foods</p> <p>P1 Correctly finding protein amounts for all foods</p> <p>P1 Adding the protein amounts</p> <p>C1 Correct conclusion following correct working</p>

Question	Working	Answer	Notes
Q22a		$(-1, -9)$	B1 cao
Q22b		-8	B1 cao
Q22c		$x = -4, x = 2$	B1 $x = -4$ B1 $x = 2$
Q23a	$\frac{518}{140} \times 100 = \text{£}370$	£370	M1 $518 = 140\%$ or dividing by 140 or 1.4 A1 £370
Q23b	$28000 \times 1.02^3 = \text{£}29173.82$	£29713.82	M1 28000×1.02^3 or $28000 + 560 = \text{£}28560$ for first year seen A1 £29713.82
Q23c	$\text{£}29173.82 - \text{£}28000 = \text{£}1173.82$ $\text{£}1173.82 \div 12 = \text{£}97.82$ extra per month Bill increase: $\text{£}518 - \text{£}370 = \text{£}148$ Yes he is correct	Yes	P1 Calculating monthly increase in salary P1 Calculating monthly increase in bills C1 Correct conclusion
Q24	$PR = 11 \times \tan(32) = 6.87356\dots$ $\cos(x) = \frac{6.87356\dots}{21}$ $x = 70.89426\dots$ $x = 70.9^\circ$		M1 $PR = 11 \tan(32)$ A1 $PR = 6.87356\dots$ M1 $\cos(x) = \frac{6.87356\dots}{21}$ or $x = \cos^{-1}\left(\frac{6.87356\dots}{21}\right)$ C1 Correct steps leading to $x = 70.9^\circ$

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