



# Mathematics

## Paper 3

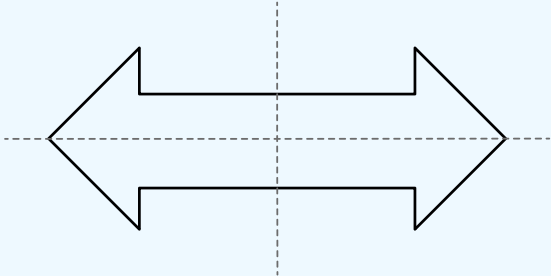
### (Calculator)

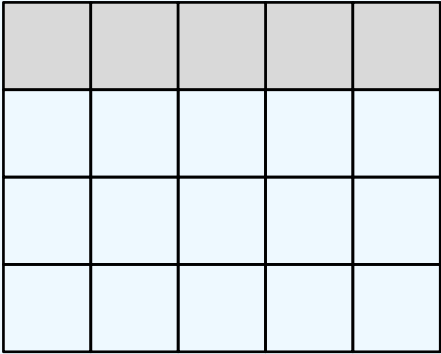
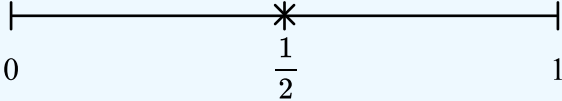
## Foundation Tier

## Mark Scheme

OCR GCSE

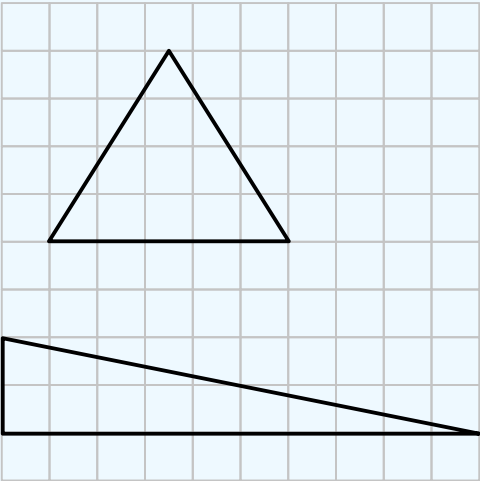
SET 3

Question	Working	Answer	Notes
Q1a	$\frac{35}{100} = \frac{7}{20}$	$\frac{35}{100}$	A1 $\frac{35}{100}$ oe
Q1b	$24 \div 4 = 6$	6	A1 cao
Q1c	$\frac{2}{5} = 14$ $\frac{1}{5} = 14 \div 2 = 7$ $\frac{5}{5} = 7 \times 5 = 35$	35	M1 $14 \div 2$ or $7 \times 5$ A1 cao
Q2a		11.35am	A1
Q2b	$12 \times 3 = 36$ $12 \div 3 = 4$ $36 + 4 = \text{£}40$	£40	M1 £36 for 3 hours seen or implied A1 cao
Q3ai		Cuboid	B1
Q3aii		8	A1
Q3b			B1
Q4a		$\frac{4}{9}$	A1

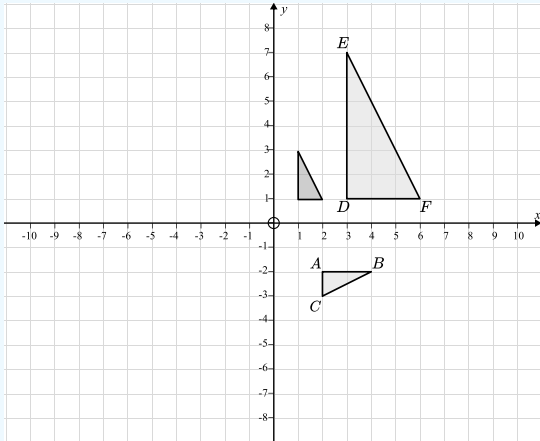
Question	Working	Answer	Notes
Q4b		5 squares shaded	A1
Q5a			B1
Q5b		$\frac{2}{6}$	A1 $\frac{2}{6}$ oe
Q6	$35 + 3 \times 4.99 = \text{£}49.97$ $3 \times 20 = \text{£}60$ $60 - 49.97 = \text{£}10.03$	$\text{£}10.03$	M1 $35 + 3 \times 4.99 (= \text{£}49.97)$ or $3 \times 20 (= \text{£}60)$ M1 $\text{£}60 - \text{Their '49.97'}$ A1 cao
Q7	$25\% \text{ of } 50 = 50 \div 4 = 12.5$	$12.5 \text{ litres}$	M1 $\frac{1}{4}$ or 25% seen M1 Attempt to find 25% of 50 A1 cao
Q8a		25	A1
Q8b		$\frac{1}{3}$	A1

Question	Working	Answer	Notes														
Q9	<table><tr><th>Category A</th><th>Category B</th></tr><tr><td>B</td><td>M</td></tr><tr><td>B</td><td>P</td></tr><tr><td>B</td><td>S</td></tr><tr><td>C</td><td>M</td></tr><tr><td>C</td><td>P</td></tr><tr><td>C</td><td>S</td></tr></table>	Category A	Category B	B	M	B	P	B	S	C	M	C	P	C	S		M1 At least 4 correct combinations A1 cao, no repeats
	Category A	Category B															
	B	M															
	B	P															
	B	S															
	C	M															
	C	P															
C	S																
Q10	14:18 = 7:9	7:9	M1 14:18 A1 correct simplified ratio														
Q11	85 + 65 = 150 180 – 150 = 30 180 – 30 = 150	150°	M1 180 – 85 – 65 ( = 30 ) A1 cao														
Q12	6 × 12 + 5 × 18 = 162 312 – 162 = 150 150 ÷ 25 = 6	6	M1 6 × 12 + 5 × 18 ( = 162 ) or 312 – 162 ( = 150 ) M1 150 ÷ 25 A1 cao														
Q13a	–6 + 21 = 15	15°C	M1 – 6 + 21 seen or implied A1 cao														
Q13b		January because –10 is between –13 and –6	B1 January B1 correct reason														



Question	Working	Answer	Notes
Q14	E.g. 	Any triangle with an area of $10\text{cm}^2$	M1A1 Any triangle with an area of $10\text{cm}^2$
Q15a		$2p + 5$	A1
Q15b		E.g. $a = 1, b = 2$	M1 Evidence of substituting at least one pair of values A1 Any pair of values where $a^2 < b$
Q16a	$12 - 5 = 7, 8 - 5 = 3$ $12 + 8 + 5 + 3 + 7 + 5 = 40$	$40\text{cm}$	M1 $7\text{cm}$ and $3\text{cm}$ seen or implied A1 cao
Q16b	$x + 7 + 2x + 5 + 2x - 2 = 5x + 10$	$5x + 10$	M1 Attempt to add all three sides A1 cao
Q17a	$5.6 \times 10 = 56\text{km}$	$40\text{km}$	M1 $5.4 - 5.8\text{cm}$ measured A1 $56\text{km}$ (their $5.4 - 5.6 \times 10$ )
Q17b		$034^\circ$	M1 A1 $034^\circ$

Question	Working	Answer	Notes
<b>Q18a</b>		$\frac{7}{9}$	B1
<b>Q18b</b>	$\frac{5}{9} = 30$ $\frac{1}{9} = 30 \div 5 = 6$ $\frac{9}{9} = 6 \times 9 = 54$	£54	M1 $\frac{5}{9} = 30$ or $30 \div 5$ M1 12 : 42 A1 cao
<b>Q19</b>	$12F = PQ$ $P = \frac{12F}{Q}$	$P = \frac{12F}{Q}$	M1 Multiply by 12 A1 cao
<b>Q20</b>	$A : 56 \times 8 = \text{€}448$ $B : 1.14 \times 400 = \text{€}456$	Travel agent <i>B</i> will give Hamza €8 more	M1 $56 \times 8$ seen or implied A1 €448 M1 $1.14 \times 400$ A1 €456 A1 Correct answer following correct working
<b>Q21a</b>		4700	A1
<b>Q21b</b>		0.006	A1
<b>Q21c</b>		$5.25 \leq n < 5.35$	A1 One bound correct A1 cao
<b>Q22a</b>	$4n + 5 = 6n - 21$ $5 = 2n - 21$ $26 = 2n$ $n = 13$	$n = 13$	M1 $6n - 21$ or correct first step M1 $2n = 26$ or correct next steps A1 cao

Question	Working	Answer	Notes
<b>Q22b</b>	$p^3 = 125$ $p = \sqrt[3]{125} = 5$	$p = 5$	M1 Divide by 2 A1 cao
<b>Q23ai</b>		3	B1
<b>Q23aii</b>		7	B1
<b>Q23iii</b>		-3	B1
<b>Q23b</b>		3	A1
<b>Q24a</b>			M1 Rotation of $90^\circ$ anti clockwise A1 cao
<b>Q24b</b>		Enlargement, scale factor 3, centre of enlargement (0, 1)	B1 Enlargement B1 Scale factor 3 B1 Centre (0, 1)
<b>Q25a</b>	$8 + 3 \times 10 + 5 \times 12 + 2 \times 14 + 3 \times 16 +$ $2 \times 18 = 210$ $210 \div 16 = 13.125$	13.125	M1 Adds all values and divides by 16 A1 cao

Question	Working	Answer	Notes
<b>Q25b</b>		*No clothes size 13.125 *Doesn't give us useful information about actual sizes of clothes sold	B1 A relevant statement
<b>Q25c</b>		Mode - it gives us information about the most common clothes size - useful for stock	B1 Mode B1 A relevant statement
<b>Q26</b>	$Q: (\frac{0+12}{2}, \frac{10+2}{2}) = (6, 6)$ $P - Q$ : along 6, up 3 $Q - R$ : along 12, up 6 $R: (18, 12)$	(18, 12)	M1 Point $Q$ correct A1 $x$ or $y$ coordinate correct A1 cao
<b>Q27</b>	$2000 \times 1.04^3 = \text{£}2249.73$ Or After 1 year: $2000 + 80 = 2080$ After 2 years: $2080 + 83.2 = 2163.20$ After 3 years: $2163.20 + 86.53 = 2249.73$	£2249.73	M1 1.04 seen or £2080 after one year M1 $1.04^3$ seen or attempt to find amount in account after 3 years using a compound method A1 cao
<b>Q28</b>	1, 2, 3, 4, 6, 8, 12, 16, 24, 48 1, 2, 4, 8, 16, 32, 64	16	M1 Correctly lists at least 4 factors of 48 and 64 or draws prime factor trees for 48 and 64 A1 cao
<b>Q29a</b>	$D = S \times T$ $D = 30 \times \frac{5}{60} = 2.5 \text{ miles}$	2.5 miles	M1 $30 \times \frac{5}{60}$ A1 cao

Question	Working	Answer	Notes
Q29b	$T = \frac{D}{S}$ $T = \frac{2.5}{20} = \frac{1}{8} \text{ hour}$ $\frac{1}{8} \times 60 = 7.5 \text{ minutes}$ <p>It will take 2.5 minutes longer</p>	No - it will take 2.5 minutes longer	M1 $2.5 \div 20$ A1 Correct conclusion following correct working
Q30a	<p>Spinner 1</p> <p>Spinner 2</p> <p>1/3 Lands on 1</p> <p>2/3 Doesn't land on 1</p> <p>1/4 Lands on 1</p> <p>3/4 Doesn't land on 1</p> <p>1/4 Lands on 1</p> <p>3/4 Doesn't land on 1</p>		M1 At least two values correct A1 cao
Q30b	$\frac{1}{3} \times \frac{1}{4} = \frac{1}{12}$	$\frac{1}{12}$	M1 <i>ft</i> Multiplies their ' $\frac{1}{3}$ ' and their ' $\frac{1}{4}$ ' A1 cao
Q31	$88\% = 8360$ $1\% = 8360 \div 88 = 95$ $100\% = 95 \times 100 = \text{£}9500$	£9500	M1 $88\% = 8360$ seen or implied A1 cao

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