



THIRD SPACE
LEARNING

Mathematics

Paper 1

(Non-Calculator)

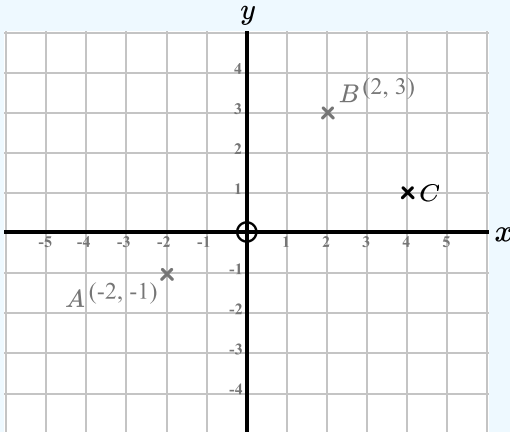
Foundation Tier

Mark Scheme

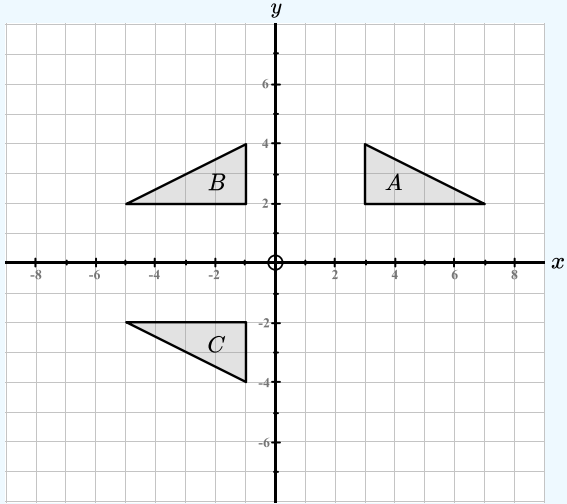
Edexcel GCSE

SET 2

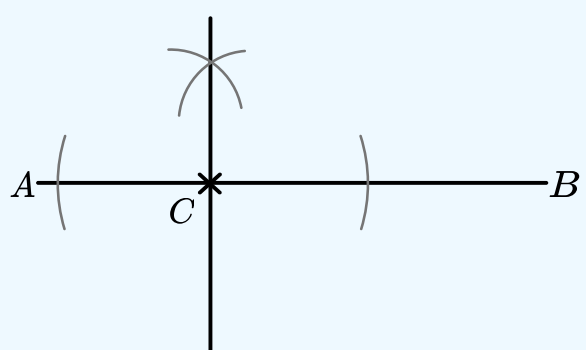
Question	Working	Answer	Notes
Q1		70%	B1 cao
Q2		-9 -5 0 4 11	B1 cao
Q3		15	B1 cao
Q4		430	B1 cao
Q5	$240 \div 60$	4	A1 cao
Q6a	$4 + 5 + 2 + 8 = 19$	19	M1 Any three of 4, 5, 2 and 8 seen and attempt to add A1 cao
Q6b		Blue	B1 cao
Q7	$2.80 + 2 \times 0.45 = \text{£}3.70$ $5 - 3.70 = \text{£}1.30$ The biggest she can buy is 2 pints	2 pints	M1 Attempt at $2.80 + 2 \times 0.45$ M1 <i>ft</i> Subtract from £5 A1 Correct answer following correct working
Q8a		$10a$	A1 cao
Q8b		$8b + 20$	A1 cao
Q8c		$c^2 - 3c$	A1 cao
Q9	$60 \div 6 = 10$ men $60 \div 10 \times 3 = 18$ women $60 - 10 - 18 = 32$	32	M1 10 men or 18 women seen M1 <i>ft</i> Subtract from 60 A1 cao

Question	Working	Answer	Notes									
Q10a			B1 cao									
Q10b		(0, 1)	A1 cao									
Q11a		$\frac{2}{7}$	A1 cao									
Q11b	$10 \div 2 = 5$ $5 \times 5 = 25$	25	M1 $10 \div 2$ or other suitable first step A1 cao									
Q12	$24 - 6 = 18$ $18 \div 2 = 9$	9cm	M1 $24 - 6 = 18$ or $2x + 6 = 24$ or $2x = 18$ seen A1 cao									
Q13	E.g. <table data-bbox="284 1204 566 1447"><tr><td></td><td>20</td><td>7</td></tr><tr><td>30</td><td>600</td><td>210</td></tr><tr><td>5</td><td>100</td><td>35</td></tr></table>		20	7	30	600	210	5	100	35	945	M1 Suitable method attempted with some success (e.g. grid method, long multiplication) A1 cao
	20	7										
30	600	210										
5	100	35										

Question	Working	Answer	Notes																				
Q14	He has divided by 1000 rather than multiplied by 1000		B1 oe																				
Q15	40% of 40 = 16 $\frac{3}{8}$ of 40 = 15 <table><tr><td></td><td>Cat</td><td>Dog</td><td>Rabbit</td><td>Total</td></tr><tr><td>Male friends</td><td>8</td><td>11</td><td>3</td><td>22</td></tr><tr><td>Female friends</td><td>7</td><td>5</td><td>6</td><td>18</td></tr><tr><td>Total</td><td>15</td><td>16</td><td>9</td><td>40</td></tr></table>		Cat	Dog	Rabbit	Total	Male friends	8	11	3	22	Female friends	7	5	6	18	Total	15	16	9	40		M1 Correct values for cat and dog totals M1 At least 4 values correct A1 All values correct
	Cat	Dog	Rabbit	Total																			
Male friends	8	11	3	22																			
Female friends	7	5	6	18																			
Total	15	16	9	40																			
Q16	$2 \times 110 = 220$ $90 \times 2.5 = 225$ $400 \div 10 \times 4 = 160$ $220 + 225 + 160 = 605$	605 kcal	M1 $2 \times 110 = 220$ M1 $90 \times 2.5 = 225$ M1 $400 \div 10 \times 4 = 160$ A1 cao																				
Q17	$\frac{200 \times 90}{50} = \frac{18000}{50}$ $= 360$	360	M1 200, 90 and 50 seen M1 $200 \times 90 = 18000$ A1 cao																				
Q18a		$4n - 1$	M1 $4n$ A1 cao																				
Q18b	$4n - 1 = 101$ $4n = 102$ $n = 25.5$	No	M1 $4n - 1 = 101$ seen A1 cao																				

Question	Working	Answer	Notes
Q19 		Rotation 180° About (1, 0)	M1 Valid attempts at reflections for shapes B and C A1 Rotation A1 180° about (1, 0)
Q20a	$x^2 - 3x - 8x + 24$	$x^2 - 11x + 24$	M1 3 of the 4 terms correct A1 cao
Q20b	$(x + 6)(x - 2) = 0$ $x + 6 = 0$ $x - 2 = 0$	$x = -6$ and $x = 2$	M1 $(x \pm 6)(x \pm 2)$ M1 $(x + 6)(x - 2)$ A1 $x = -6$ and $x = 2$
Q21	$120 \div 3 \times 2 = 80$ $80 \times 0.30 = \text{£}24$ 25% of 24 = £6 $\text{£}24 + \text{£}6 = \text{£}30$ $30 \div 120 = 0.25$	25p or £0.25	M1 80×0.3 or $80 \times 30p$ seen M1 <i>ft</i> 25% of answer calculated M1 $\text{£}24 + \text{£}6 = \text{£}30$ or $30 \div 120$ A1 cao

Question	Working	Answer	Notes
Q22	$2\frac{1}{3} + 1\frac{3}{4} = \frac{7}{3} + \frac{7}{4}$ $= \frac{28}{12} + \frac{21}{12} = \frac{49}{12}$ $= 4\frac{1}{12}$	$4\frac{1}{12}$	M1 $\frac{7}{3} + \frac{7}{4}$ seen or $2 + 1$ and $\frac{1}{3} + \frac{3}{4}$ seen M1 Fractions correctly converted to common denominator A1 cao
Q23	Factors of 64: 1, 2, 4, 8, 16, 32, 64 Factors of 80: 1, 2, 4, 5, 8, 10, 16, 20, 40, 80	16	M1 Factors of 64 and 80 listed (allow up to one of each missing) or prime factor trees for both 64 and 80 drawn (allow one minor error) A1 cao
Q24	$\frac{90}{360} = \frac{1}{4}, \frac{1}{4} \text{ of } 60 = 15$ $\frac{60}{360} = \frac{1}{6}, \frac{1}{6} \text{ of } 60 = 10$ $60 - 15 - 10 = 35$ $15 \times 2.1 = 31.5$ $10 \times 3.5 = 35$ $35 \times 4 = 140$ $31.5 + 35 + 140 = 206.5g$	206.5g	M1 Number of small marbles = 15 M1 Number of medium marbles = 10, number of large marbles = 35 M1 <i>ft</i> Attempt to multiply numbers of marbles by weights A1 cao
Q25a		0.000038	B1 cao
Q25b	$2 \times 4.1 = 8.2$ $10^2 \times 10^5 = 10^7$	8.2×10^7	M1 8.2 or 10^7 seen A1 cao

Question	Working	Answer	Notes
Q26			<p>M1 Equidistant arcs on AB either side of C seen</p> <p>M1 Attempt at two or more intersecting arcs</p> <p>A1 Correct construction with all construction lines visible</p>
Q27	<p>The boys had more higher values than the girls</p> <p>The highest value was higher for the boys than the girls</p> <p>The median was higher for the boys than for the girls</p> <p>The range of times was greater for the boys</p>		<p>A1 One correct comparative statement</p> <p>A1 At least two correct comparative statements</p>
Q28a	Number of prime numbers: 4	$\frac{4}{10}$	<p>M1 4 prime numbers</p> <p>A1 $\frac{4}{10}$ oe</p>
Q28b	$200 \times 0.50 = \text{£}100$ Expected wins: $\frac{4}{10} \times 200 = 80$ $\text{£}100 - 80 = \text{£}20$	£20	<p>M1 $200 \times 0.50 = \text{£}100$</p> <p>M1 Expected number of wins 80 or £80</p> <p>A1 cao</p>

Question	Working	Answer	Notes
Q29a		$\frac{1}{2}$	B1 cao
Q29b	$\sin(30) = \frac{6}{H}$ $\frac{1}{2} = \frac{6}{H}$ $H = 12$ $\text{Area} = \frac{1}{2} \times 12 \times 10.4$ $= 62.4\text{cm}^2$	62.4cm^2	M1 $\sin(30) = \frac{6}{H}$ oe seen A1 $H = 12$ M1 <i>ft</i> $\text{Area} = \frac{1}{2} \times 12 \times 10.4$ A1 cao

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