



THIRD SPACE
LEARNING

Mathematics

Paper 2

(Non-Calculator)

Foundation Tier

Mark Scheme

OCR GCSE

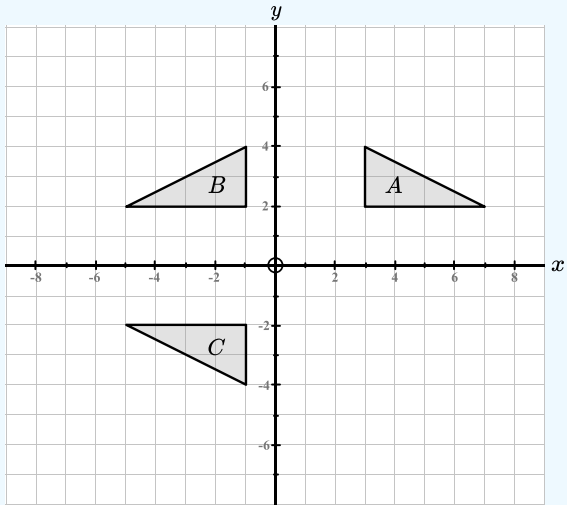
SET 2

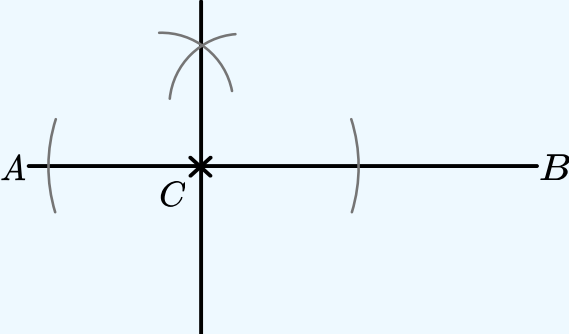
Question		Working	Answer	Notes
Q1a	2.13		£8.72	A1 cao
	<u>6.59</u>			
	8.72			
Q1b i		4		A1 cao
Q1b ii		16		A1 cao
Q2a i	$240 \div 60 = 4$	4		A1 cao
Q2a ii	$2.5 \times 60 = 150$	150		A1 cao
Q2b	$6500 \div 1000 = 6.5$	6.5		A1 cao
Q2c	$2.8 + 5 = 7.8$	7.8		M1 2.8cm seen A1 cao
Q3ai		9.6		A1 cao
Q3aii		2.03		A1 cao
Q3b	$5 + 4 \times 3 = 5 + 12 = 17$	17		A1 cao
Q4ai		Equilateral		B1 cao
Q4aii		Scalene		B1 cao
Q4b		Pentagon		B1 cao
Q5ai		$\frac{3}{4}$		A1 cao

Question	Working	Answer	Notes
Q5a ii		$\frac{7}{4}$	A1 cao
Q5b i	$\frac{4}{16} + \frac{5}{16} = \frac{9}{16}$	$\frac{9}{16}$	M1 $\frac{4}{16}$ or two correct fractions with common denominator seen A1 $\frac{9}{16}$ oe
Q5b ii	$\frac{7}{3} \times \frac{2}{5} = \frac{14}{15}$	$\frac{14}{15}$	M1 $\frac{7}{3}$ seen
Q6a	$4 + 5 + 2 + 8 = 19$	19	M1 At least three of 4, 5, 2 and 8 seen with 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
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
Q10a		2^5	B1 cao

Question	Working	Answer	Notes																				
Q10b	$\sqrt[3]{27} = 3$ $4^2 = 16$ $3 \times 16 = 48$	48	M1 Either 3 or 16 seen M1 Both 3 and 16 seen 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	$24 - 6 = 18$ $18 \div 2 = 9$ $9 \times 5 + 6 = 51cm$	51cm	M1 $24 - 6 = 18$ or $2x + 6 = 18$ seen M1 $18 \div 2 = 9$ M1 <i>ft</i> their value multiplied by 5 and added to 6 A1 cao																				
Q13a		4:5	A1 cao																				
Q13b	$600:3000 = 1:5$	1:5	M1 $3l = 3000ml$ or $600ml = 0.6l$ M1 <i>ft</i> their values in equivalent ratio A1 cao																				
Q14	$40\% \text{ of } 40 = 16$ $\frac{3}{8} \text{ of } 40 = 15$ <table border="1"><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																			

Question	Working	Answer	Notes
Q15	$10 - 6 = 4$ which is the length of the longer side $8 - 2 - 4 = 2$ which is the length of the shorter side $8 + 4 = 12, 6 - 2 = 4$	(12, 4)	M1 Length or width of the rectangles correct (4 or 2) M1 Length and width of rectangles correct (4 and 2) M1 x or y coordinate of C correct A1 cao
Q16	$\frac{200 \times 90}{50} = \frac{18000}{50}$ $= 360$	360	M1 200, 90 and 50 seen M1 $200 \times 90 = 18000$ A1 cao
Q17	$2 \times 110 = 220$ $90 \times 2.5 = 225$ $400 \div 10 \times 4 = 160$ $220 + 225 + 160 = 605$	605 cal	M1 $2 \times 110 = 220$ M1 $90 \times 2.5 = 225$ M1 $400 \div 10 \times 4 = 160$ A1 cao
Q18a		$4n - 1$	M1 $4n$ A1 cao
Q18b	$4n - 1 = 101$ $4n = 102$ $n = 25.5$	No, n is not an integer	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 (x^2 , $-3x$, $-8x$, $+24$) A1 cao
Q20b	$(x + 6)(x - 2) = 0$ $x + 6 = 0$ $x - 2 = 0$	$x = -6$ & $x = 2$	M1 $(x + 6)(x - 2)$ or $x = \frac{-4 \pm \sqrt{4^2 - (4 \times 1 \times -12)}}{2 \times 1}$ seen A1 $x = -6$ or $x = 2$ A1 Both correct answers
Q21a	$120 \div 3 \times 2 = 80$ $80 \times 0.30 = \text{£}24$ $25\% \text{ of } 24 = \text{£}6$ $\text{£}24 + \text{£}6 = \text{£}30$ $30 \div 120 = 0.25$	$25p$ or $\text{£}0.25$	M1 80×0.3 or $80 \times 30p$ seen M1 <i>ft</i> 25% of answer calculated M1 $\text{£}24 + \text{£}6 = \text{£}30$ A1 cao

Question	Working	Answer	Notes
Q21b	$\pounds 64 = 80\%$ $64 \div 8 \times 10 = \pounds 80$	$\pounds 80$	M1 $\pounds 64 = 80\%$ seen or implied M1 Valid step towards finding 100% e.g. $64 \div 8$ or $64 \div 0.8$ A1 cao
Q22	$\frac{90}{360} = \frac{1}{4}, \frac{1}{4} \text{ of } 60 = 15$ $\frac{60}{360} = \frac{1}{6}, \frac{1}{6} \text{ of } 60 = 10$ $60 - 15 - 10 = 35$ $15 \times 2.1 = 31.5$ $10 \times 3.5 = 35$ $35 \times 4 = 140$ $31.5 + 35 + 140 = 206.5g$	$206.5g$	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
Q23a		3.8×10^4	B1 cao
Q23b		$p = 2$ $q = -1$	A1 p correct A1 q correct
Q24			M1 Equidistant arcs either side of C seen M1 Attempt at two more arcs above or below AB A1 Correct construction with all construction lines visible

Question	Working	Answer	Notes
Q25	We don't know the actual lowest and highest values for the girls.	Can't tell	A1 Can't tell B1 A correct explanation
Q26a	Number of prime numbers: 4	$\frac{4}{10}$	M1 4 prime numbers or 2, 3, 5 and 7 seen A1 $\frac{4}{10}$ oe
Q26b	$200 \times 0.50 = \text{£}100$ Expected wins: $\frac{4}{10} \times 200 = 80$ $\text{£}100 - 80 = \text{£}20$	£20	M1 $200 \times 0.50 = \text{£}100$ M1 Expected number of wins 80 A1 cao
Q27a		$\frac{1}{2}$	B1 cao
Q27b	$\sin(30) = \frac{6}{H}$ $\frac{1}{2} = \frac{6}{H}$ $H = 12$ $\text{Area} = \frac{1}{2} \times 12 \times 10.4$ $= 62.4\text{cm}^2$	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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