



THIRD SPACE
LEARNING

Mathematics

Paper 1

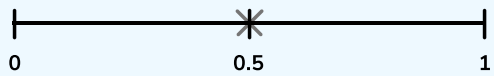
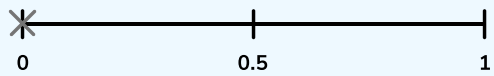
(Non-Calculator)

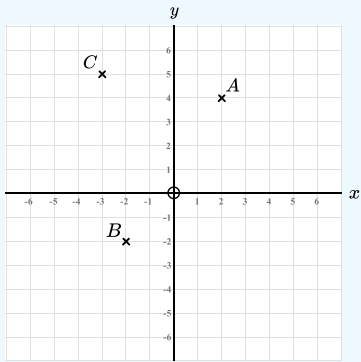
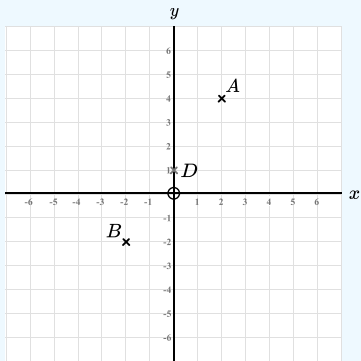
Foundation Tier

Mark Scheme

Edexcel GCSE

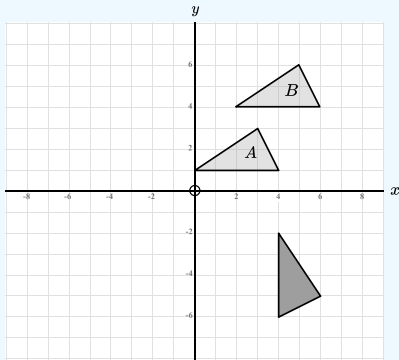
SET 1B

Question	Working	Answer	Notes
Q1		5	B1 cao
Q2		8	B1 cao
Q3		$7a + 5b$	B1 cao
Q4	$0.4 = \frac{4}{10}$	$\frac{2}{5}$	M1 $\frac{4}{10}$ seen A1 $\frac{2}{5}$ must be simplified
Q5a			B1 cao
Q5b			B1 cao
Q6a	$40 \div 5 = 8$ $8 \times 2 = 16$	16	M1 $40 \div 5 (= 8)$ may be embedded e.g. 8×2 A1 16
Q6b	10% of 40 = 4 70% of 40 = 28	28	M1 10% of 40 = 4 or 0.7×40 seen A1 28
Q7a		(2, 4)	B1 cao

Question	Working	Answer	Notes
Q7b			B1 cao
Q7c		(0, 1)	<p>P1 Correct point marked on grid or either x or y coordinate correct or attempt at $(\frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2})$</p> <p>A1 cao</p>
Q8		$5 + 3 \times 4 - 2$ $5 + 4 \times 3 - 2$	<p>M1 Any attempt with BIDMAS applied correctly - doesn't have to equal 15 if they have written correct answer for their attempt</p> <p>E.g. $1 + 2 \times 3 - 4 = 3$</p> <p>A1 cao</p>

Question	Working	Answer	Notes
Q9	$21 \times 50 = 1050\text{cm}$	10.5m	M1 $21 \times 50 (= 1050)$ A1 10.5m
Q10a		Tuesday	B1 cao
Q10b	Smoothies: $6 + 9 + 3 + 7 = 25$ Milkshakes: $9 + 3 + 12 + 6 = 30$	Milkshakes	M1 Adding correct values for numbers of milkshakes and getting 25 M1 At least 2 of the values for milkshakes correctly found and 4 values for milkshakes added together C1 Correct statement following correct working
Q10c	Total milkshakes: 30	$\frac{9}{30}$	M1 Either numerator or denominator correct A1 $\frac{9}{30}$ oe
Q11a	$15 + 8 + 12 + 5 + 4 = 44\text{m}$	44m	B1 cao
Q11b	$44 \times \text{£}3 = \text{£}132$ $\text{£}132 + \text{£}200 = \text{£}332$	£332	P1 Correct step for finding cost of fence: $44 \times 3 (= 132)$ P1 Adding £200 to their cost of fence A1 £332
Q11c	$\text{£}400 - \text{£}332 = \text{£}68$ $5 \times \text{£}12 = \text{£}60$ $6 \times \text{£}12 = \text{£}72$	5	P1 $\text{£}400 - \text{£}332 (= 68)$ A1 5

Question	Working	Answer	Notes
Q12	$2x + 7 \leq 13$ $2x \leq 6$ $x \leq 3$	$x \leq 3$	M1 Attempting to subtract 7 as first step e.g. $2x \leq 6$ seen A1 cao
Q13	1 hour = £15 10 hours = £150	£150	M1 $120 \div 8 (= 15)$ or method building up e.g. 1 hour = 15, 2 hours = 30 etc A1 10 hours = £150
Q14	$2x + 30 + 3x + 3x + 10 = 360$ $8x + 40 = 360$ $8x = 320$ $x = 40$	$x = 40^\circ$	P1 Forming an equation written equal to 360 e.g. $2x + 30 + 3x + 3x + 10 = 360$ P1 Attempting to solve, e.g. $8x = 320$ A1 $x = 40^\circ$
Q15a	$10 \times 60 = 600$ seconds	600 seconds	B1 cao
Q15b	$Speed = \frac{3000}{600} = 5m/s$	5m/s	M1 Attempting to use $Speed = \frac{Distance}{Time}$ A1 5m/s
Q16	Mode: dog	$\frac{27}{80}$	M1 Mode = dog seen or implied (may be highlighted in table, must be unambiguous) M1 Either numerator or denominator correct A1 $\frac{27}{80}$
Q17		$(x - 7)(x + 4)$	M1 $(x + a)(x + b)$ where $ab = \pm 28$ A1 cao

Question	Working	Answer	Notes
Q18a	$\pounds40 \div 5 = \pounds8$ Karam: $2 \times \pounds8 = \pounds16$ Marwa: $3 \times \pounds8 = \pounds24$ $\pounds24 - \pounds12 = \pounds12$ $16:12 = 4:3$	4:3	M1 Dividing $\pounds40$ in the ratio 2:3 e.g. $\pounds16:\pounds24$ M1 Subtracting $\pounds12$ from their answer for Marwa A1 4:3 must be simplified
Q18b	$\frac{12}{40} = \frac{3}{10} = 30\%$	30%	M1 $\frac{12}{40}$ seen A1 30%
Q19a		No	B1 No C1 The shape has been translated by $\begin{pmatrix} 2 \\ 3 \end{pmatrix}$ or other correct statement
Q19b			M1 Any rotation of 90° A1 Completely correct rotation
Q20a		a^8	B1 cao
Q20b		b^6	B1 cao
Q20c		$81c^8$	M1 kc^8 where k is a positive integer A1 $81c^8$

Question	Working	Answer	Notes
Q21a			C1 Ben has written 3 and 3 as a factor pair for 6. It should be 2 and 3
Q21b		$2^3 \times 3^2$	A1 cao must be in index form
Q22a	$1\frac{1}{2} + \frac{1}{3} = \frac{3}{2} + \frac{1}{3} = \frac{9}{6} + \frac{2}{6} = \frac{11}{6} = 1\frac{5}{6}$	$\frac{11}{6}$	M1 $\frac{9}{6} + \frac{2}{6}$ or correct equivalent with common denominator A1 Correctly adding to give $\frac{11}{6}$ oe
Q22b	$2\frac{1}{2} \times 1\frac{5}{6} = \frac{5}{2} \times \frac{11}{6} = \frac{55}{12} = 4\frac{7}{12}$	$4\frac{7}{12}$	M1 $2\frac{1}{2} \times$ their answer to (a) seen M1 Correctly converting to improper fractions and attempting to multiply numerators and denominators A1 $4\frac{7}{12}$ must be written as a mixed number
Q23a	$\frac{12}{80} \times 7200$ $7200 \div 80 = 90$ $90 \times 12 = 1080$	1080	M1 $\frac{12}{80}$ oe seen M1 Attempt to find $\frac{12}{80}$ of 7200 A1 1080
Q23b			C1 The sample was random. In reality, the proportion of customers who booked holidays of 10+ nights may be higher or lower or other correct comment

Question	Working	Answer	Notes
Q24	<p>100% in the ratio 1:4 gives 20% of teachers male and 80% of teachers female.</p> <p>30% of 20% = 6%</p> <p>10% of 80% = 8%</p> <p>14% of all teachers are maths teachers.</p> <p>86% are other teachers.</p> <p>14:86 = 7:43</p>		<p>P1 Determining that 20% of the teachers are male and 80% are female</p> <p>P1 Finding 30% of 20% and 10% of 80%</p> <p>P1 Finding total percentage of teachers that are maths teachers</p> <p>P1 Determining the percentage of teachers that are other teachers</p> <p>P1 Writing ratio as 14:86 and simplifying</p>
Q25a	$0.1 \times 0.04 = 0.004\text{m}^2$	0.004m^2	<p>M1 0.1×0.04 seen</p> <p>A1 0.004</p>
Q25b	$8000 = \frac{\text{Force}}{0.004}$ <p>Force = $8000 \times 0.004 = 32\text{N}$</p>	32N	<p>M1 Correctly substituting values into $\text{Pressure} = \frac{\text{Force}}{\text{Area}}$. May use rearranged form</p> <p>M1 Reaches Force = 8000×0.004</p> <p>A1 32N</p>

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