

1MA0_1H					
Question		Working	Answer	Mark	Notes
1	(a)		Type of film Tally Frequency	2	B2 for a table with all 3 aspects: Column/row heading 'type of film' or list of at least 3 film types Column/row heading 'tally' or tally marks (or key) Column/row heading 'frequency' or totals oe (B1 for a table with 2 of the 3 aspects)
	(b)			1	B1 for acceptable reason eg. all same age, sample too small, biased, same school

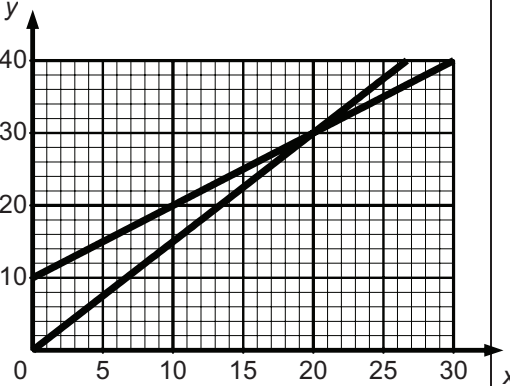
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Question		Working	Answer	Mark	Notes
2	(a)	$360 \div 60 = 6$ $300 \div 60 = 5$ $6 \times 5 =$	Yes and 30	3	<p>M1 for dividing side of patio by side of paving slab eg. $360 \div 60$ or $300 \div 60$ or $3.6 \div 0.6$ or $3 \div 0.6$ or 6 and 5 seen (may be on a diagram) or 6 divisions seen on length of diagram or 5 divisions seen on width of diagram M1 for correct method to find number of paving slabs eg. $(360 \div 60) \times (300 \div 60)$ oe or 6×5 or 30 squares seen on diagram (units may not be consistent) A1 for Yes and 30 (or 2 extra) with correct calculations</p> <p>OR M1 for correct method to find area of patio or paving slab eg 360×300 or 108000 seen or 60×60 or 3600 seen or 3.6×3 or 10.8 seen or 0.6×0.6 or 0.36 seen M1 for dividing area of patio by area of a paving slab eg. $(3.6 \times 3) \div (0.6 \times 0.6)$ oe (units may not be consistent) A1 for Yes and 30 (or 2 extra) with correct calculations</p> <p>OR M1 for method to find area of patio or area of 32 slabs eg. $60 \times 60 \times 32$ or 360×300 M1 for method to find both area of patio and area of 32 slabs eg. $60 \times 60 \times 32$ and 360×300 (units may not be consistent) A1 for Yes and 115200 and 108000 OR Yes and 11.52 and 10.8</p> <p>NB : Throughout the question, candidates could be working in metres or centimetres</p>

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Question	Working	Answer	Mark	Notes												
(b)	$\begin{array}{r} 1726 \\ 25890 \\ \hline 27616 \end{array}$ <table border="1" data-bbox="309 635 743 762"> <tbody> <tr> <td></td> <td>800</td> <td>60</td> <td>3</td> </tr> <tr> <td>30</td> <td>24000</td> <td>1800</td> <td>90</td> </tr> <tr> <td>2</td> <td>1600</td> <td>120</td> <td>6</td> </tr> </tbody> </table> $24000 + 1800 + 90 + 1600 + 120 + 6 = 27616$		800	60	3	30	24000	1800	90	2	1600	120	6	276.16	3	<p>M1 for complete correct method with relative place value correct. Condone 1 multiplication error, addition not necessary.</p> <p>OR</p> <p>M1 for a complete grid. Condone 1 multiplication error, addition not necessary.</p> <p>OR</p> <p>M1 for sight of a complete partitioning method, condone 1 multiplication error. Final addition not necessary.</p> <p>A1 for digits 27616</p> <p>A1 ft (dep on M1) for correct placement of decimal point after addition (of appropriate values)</p> <p>(SC: B1 for attempting to add 32 lots of 8.63)</p>
	800	60	3													
30	24000	1800	90													
2	1600	120	6													

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Question	Working	Answer	Mark	Notes																					
3	<p>(a)</p> <p>(b)</p>  <table border="1" data-bbox="302 970 779 1066"> <thead> <tr> <th>Miles</th> <th>0</th> <th>10</th> <th>20</th> <th>30</th> <th>40</th> <th>50</th> </tr> </thead> <tbody> <tr> <td>Ed</td> <td>0</td> <td>15</td> <td>30</td> <td>45</td> <td>60</td> <td>75</td> </tr> <tr> <td>Bill</td> <td>10</td> <td>20</td> <td>30</td> <td>40</td> <td>50</td> <td>60</td> </tr> </tbody> </table>	Miles	0	10	20	30	40	50	Ed	0	15	30	45	60	75	Bill	10	20	30	40	50	60	<p>10</p> <p>Ed is cheaper up to 20 miles, Bill is cheaper for more than 20 miles</p>	<p>1</p> <p>3</p>	<p>B1 cao</p> <p>M1 for correct line for Ed intersecting at (20,30) ± 1 sq tolerance OR $10 + x = 1.5x$ oe</p> <p>C2 (dep on M1) for a correct full statement ft from graph eg. Ed cheaper up to 20 miles and Bill cheaper for more than 20 miles (C1 (dep on M1) for a correct conclusion ft from graph eg. cheaper at 10 miles with Ed ; eg. cheaper at 50 miles with Bill eg. same cost at 20 miles; eg for £5 go further with Bill OR A general statement covering short and long distances eg. Ed is cheaper for shorter distances and Bill is cheaper for long distances)</p> <p>OR</p> <p>M1 for correct method to work out Ed's delivery cost for at least 2 values of n miles where $0 < n \leq 50$ OR for correct method to work out Ed and Bill's delivery cost for n miles where $0 < n \leq 50$</p> <p>C2 (dep on M1) for 20 miles linked with £30 for Ed and Bill with correct full statement eg. Ed cheaper up to 20 miles and Bill cheaper for more than 20 miles (C1 (dep on M1) for a correct conclusion eg. cheaper at 10 miles with Ed; eg. cheaper at 50 miles with Bill eg. same cost at 20 miles; eg for £5 go further with Bill OR A general statement covering short and long distances eg. Ed is cheaper for shorter distances and Bill is cheaper for long distances)</p> <p>SC : B1 for correct full statement seen with no working eg. Ed cheaper up to 20 miles and Bill cheaper for more than 20 miles</p> <p>QWC: Decision and justification should be clear with working clearly presented and attributable</p>
Miles	0	10	20	30	40	50																			
Ed	0	15	30	45	60	75																			
Bill	10	20	30	40	50	60																			

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Question	Working	Answer	Mark	Notes
4	$\begin{array}{r l} 2 & 9 \\ 3 & 1\ 3\ 5\ 6\ 9 \\ 4 & 2\ 3\ 3\ 4\ 6\ 8\ 9 \\ 5 & 2\ 4\ 5 \end{array}$ <p>OR</p> $\begin{array}{r l} 20 & 9 \\ 30 & 1\ 3\ 5\ 6\ 9 \\ 40 & 2\ 3\ 3\ 4\ 6\ 8\ 9 \\ 50 & 2\ 4\ 5 \end{array}$	$\begin{array}{r l} 2 & 9 \\ 3 & 1\ 3\ 5\ 6\ 9 \\ 4 & 2\ 3\ 3\ 4\ 6\ 8\ 9 \\ 5 & 2\ 4\ 5 \end{array}$ <p>Key: $2 \mid 9 = 29$</p>	3	<p>B3 for fully correct diagram with appropriate key (B2 for ordered leaves, with at most two errors or omissions and a key OR correct unordered leaves and a key OR correct ordered leaves) (B1 for unordered or ordered leaves, with at most two errors or omissions OR key)</p> <p>NB : Order of stem may be reversed; condone commas between leaves</p>
5	$c = \frac{30 \times 40}{150}$	8	2	<p>M1 for $\frac{30 \times 40}{150}$ or 1200 seen A1 cao</p>
6	<p>(a)</p> <p>(b) $1000 \div 200 \times 12$</p>	30	2	<p>M1 for $25 \div 10$ or 2.5 seen or $10 \div 25$ or 0.4 seen or $12 + 12 + 6$ oe or a complete method eg. $25 \times 12 \div 10$ oe A1 cao</p>
		60	2	<p>M1 for $500 \div 50$ or $1000 \div 200$ or $500 \div 10$ OR correct scale factor clearly linked with one ingredient eg. 10 with sugar or 5 with butter or flour or 50 with milk OR answer of 120 or 600 A1 cao</p>

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Question	Working	Answer	Mark	Notes
7	<p>Acton after 24, 48, 72, 96, 120 Barton after 20, 40, 60, 80, 100, 120 LCM of 20 and 24 is 120 9:00 am + 120 minutes</p> <p>OR Acton after 24, 48, 1h 12 m, 1h 36m, 2h Barton after 20, 40, 1 h, 1h 20m, 1h 40m, 2h LCM is 2 hours 9:00 am + 2 hours</p> <p>OR Times from 9:00 am when each bus leaves the bus station Acton at 9:24, 9:48, 10:12, 10:36, 11:00 Barton at 9:20, 9:40, 10:00, 10:20, 10:40, 11:00</p> <p>OR $20 = 2 \times 2 \times 5$ $24 = 2 \times 2 \times 2 \times 3$</p> <p>$2 \times 2 \times 2 \times 3 \times 5 = 120$</p>	11:00 am	3	<p>M1 for listing multiples of 20 and 24 with at least 3 numbers in each list ; multiples could be given in minutes or in hours and minutes (condone one addition error in total in first 3 numbers in lists) A1 identify 120 (mins) or 2 (hours) as LCM A1 for 11:00 (am) or 11(am) or 11 o'clock</p> <p>OR M1 for listing times after 9am when each bus leaves the bus station, with at least 3 times in each list (condone one addition error in total in first 3 times after 9am in lists) A1 for correct times in each list up to and including 11:00 A1 for 11:00 (am) or 11(am) or 11 o'clock</p> <p>OR M1 for correct method to write 20 and 24 in terms of their prime factors 2, 2, 5 and 2, 2, 2, 3 (condone one error) A1 identify 120 as LCM A1 for 11:00 (am) or 11(am) or 11 o'clock</p>

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Question		Working	Answer	Mark	Notes
8	(a)		$6y - 15$	1	B1 cao
	(b)		$4x(2x + y)$	2	B2 cao (B1 for $x(8x + 4y)$ or $2x(4x + 2y)$ or $4(2x^2 + xy)$ or $4x(ax + by)$ where a, b are positive integers or $ax(2x + y)$ where a is a positive integer or $4x(2x - y)$)
	(c)	$10t = gh$ $h = \frac{10t}{g}$	$\frac{10t}{g}$	2	M1 for clear intention to multiply both sides of the equation by 10 (eg. $\times 10$ seen on both sides of equation) or clear intention to divide both sides of the equation by g (eg. $\div g$ seen on both sides of equation) or $10t = gh$ or $\frac{t}{g} = \frac{h}{10}$ or fully correct reverse flow diagram eg. $\leftarrow \times 10 \leftarrow \div g \leftarrow$ A1 for $\frac{10t}{g}$ oe

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Question		Working	Answer	Mark	Notes
9			Rotation 180° Centre (3, 3) or Enlargement Scale factor -1 Centre (3, 3)	3	B1 for rotation B1 for 180° B1 for (3, 3) OR B1 for enlargement B1 for scale factor -1 B1 for (3, 3) B0 for a combination of transformations

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Question	Working	Answer	Mark	Notes
10	$2.25 \times 60 \div 100 = 1.35$ $1.35 + 0.80 = 2.15$ $1.5 \times 60 \div 100 = 0.90$ $0.90 + 1.90 = 2.80$	Railtickets with correct calculations	4	<p>NB. All work may be done in pence throughout</p> <p>M1 for correct method to find credit card charge for one company eg. $0.0225 \times 60 (=1.35)$ oe or $0.015 \times 60 (=0.9)$ oe M1 (dep) for correct method to find total additional charge or total price for one company eg. $0.0225 \times 60 + 0.80$ or $0.015 \times 60 + 1.90$ or 2.15 or 2.8(0) or 62.15 or 62.8(0) A1 for 2.15 and 2.8(0) or 62.15 and 62.8(0) C1 (dep on M1) for a statement deducing the cheapest company, but figures used for the comparison must also be stated somewhere, and a clear association with the name of each company</p> <p>OR</p> <p>M1 for correct method to find percentage of (60+booking fee) eg. $0.0225 \times 60.8 (=1.368)$ oe or $0.015 \times 61.9 (=0.9285)$ M1 (dep) for correct method to find total cost or total additional cost eg. '1.368' + $60.8 (=62.168)$ or '1.368' + $0.8 (=2.168)$ or '0.9285' + $61.9 (=62.8285)$ or '0.9285' + $1.9 (=2.8285)$ A1 for 62.168 or 62.17 AND 62.8285 or 62.83 OR 2.168 or 2.17 AND 2.8285 or 2.83 C1 (dep on M1) for a statement deducing the cheapest company, but figures used for the comparison must also be stated somewhere, and a clear association with the name of each company</p> <p>OR</p>
	OR			OR

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Question		Working	Answer	Mark	Notes
		$2.25 - 1.5 = 0.75$ $0.075 \times 60 \div 100 = 0.45$ $0.80 + 0.45 = 1.25$ $1.25 < 1.90$			<p>M1 for correct method to find difference in cost of credit card charge eg. $(2.25 - 1.5) \times 60 \div 100$ oe or 0.45 seen M1 (dep) for using difference with booking fee or finding difference between booking fees eg. $0.80 + "0.45" (=1.25)$ or $1.90 - "0.45" (=1.45)$ or $1.90 - 0.8 (=1.1(0))$ A1 1.25 and 1.9(0) or 0.45 and 1.1(0) C1 (dep on M1) for a statement deducing the cheapest company, but figures used for the comparison must also be stated somewhere, and a clear association with the name of each company</p> <p>QWC: Decision and justification should be clear with working clearly presented and attributable</p>

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Question		Working	Answer	Mark	Notes
11		$3x - 15 = 2x + 24$ $x = 39$ OR $2x + 3x - 15 + 2x + 2x + 24 = 360$ $9x + 9 = 360$ $9x = 351$ $x = 39$ OR $2x + 2x + 24 = 180$ $4x + 24 = 180$ $4x = 156$ $x = 39$ OR $2x + 3x - 15 = 180$ $5x - 15 = 180$ $5x = 195$ $x = 39$	39	3	<p>M1 for forming an appropriate equation eg. $3x - 15 = 2x + 24$</p> <p>OR $2x + 3x - 15 + 2x + 2x + 24 = 360$</p> <p>OR $2x + 2x + 24 = 180$</p> <p>OR $2x + 3x - 15 = 180$</p> <p>OR $2x + 3x - 15 = 2x + 2x + 24$</p> <p>M1 (dep) for correct operation(s) to isolate x and non-x terms in an equation to get to $ax = b$ A1 cao</p> <p>OR M2 for $\frac{351}{9}$ oe or $\frac{195}{5}$ oe or $\frac{156}{4}$ oe A1 cao</p>

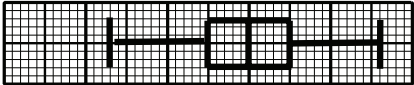
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Question	Working	Answer	Mark	Notes
12	$6 \times 10 \times 8 = 480$ $480 \div (6 \times 20) =$	4	3	<p>M1 for $6 \times 10 \times 8$ or 480 seen M1 (dep) for '480' $\div (6 \times 20)$ oe A1 cao</p> <p>OR</p> <p>M1 for $20 \div 10 (=2)$ or $10 \div 20 (= \frac{1}{2})$ or $\frac{8}{20}$ oe or $\frac{20}{8}$ oe</p> <p>M1 (dep) for $8 \div '2'$ or $8 \times \frac{1}{2}$ or $\frac{8}{20} \times 10$ oe or</p> <p>$10 \div \frac{20}{8}$</p> <p>A1 cao</p> <p>SC : B2 for answer of 16 coming from $\frac{20 \times 8 \times 6}{10 \times 6}$ oe</p>

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Question	Working	Answer	Mark	Notes
13	$180 - (360 \div 6) = 120$ $180 - (360 \div 8) = 135$ $360 - 120 - 135 =$ OR $360 \div 6 = 60$ $360 \div 8 = 45$ $60 + 45 =$	105	4	<p>NB. Do remember to look at the diagram when marking this question. Looking at the complete method should confirm if interior or exterior angles are being calculated</p> <p>M1 for a correct method to work out the interior angle of a regular hexagon eg. $180 - (360 \div 6)$ oe or $(6 - 2) \times 180 \div 6$ oe or 120 as interior angle of the hexagon M1 for a correct method to work out the interior angle of a regular octagon $180 - (360 \div 8)$ oe or $(8 - 2) \times 180 \div 8$ oe or 135 as interior angle of the octagon M1 (dep on at least M1) for a complete method eg. $360 - "120" - "135"$ A1 cao</p> <p>OR M1 for a correct method to work out an exterior angle of a regular hexagon eg. $360 \div 6$ or 60 as exterior angle of the hexagon M1 for a correct method to work out an exterior angle of a regular hexagon $360 \div 8$ or 45 as exterior angle of the octagon M1 (dep on at least M1) for a complete method eg. $"60" + "45"$ A1 cao</p> <p>SC : B1 for answer of 255</p>

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Question		Working	Answer	Mark	Notes
14	(a)		35	1	B1 for 34 – 36
	(b)		110	1	B1 for 108 – 112
	(c)		Position of <i>B</i> marked	2	B1 for a point marked on a bearing of $40^\circ (\pm 2^\circ)$ from <i>H</i> or for a line on a bearing of $40^\circ (\pm 2^\circ)$ (use straight line guidelines on overlay) B1 for a point 4 cm (± 0.2 cm) from <i>H</i> or for a line of length 4 cm (± 0.2 cm) from <i>H</i> (use circular guidelines on overlay) NB. No label needed for point
15	(a)		170	1	B1 accept answers in range 170 - 170.5 inclusive
	(b)			3	B3 for box plot with all 3 aspects correct (overlay) aspect 1 : ends of whiskers at 153 and 186 aspect 2 : ends of box at 165 and 175 aspect 3 : median marked at 170 or ft (a) provided $165 < (a) < 175$ (B2 for box plot with two aspects correct) (B1 for one aspect or correct quartiles and median identified) SC : B2 for all 5 values (153, 165, '170', 175, 186) plotted
	(c)		Two correct comparisons	2	B1 ft from (b) for a correct comparison of range or inter-quartile range eg. the range / iqr is smaller for group B than group A B1 ft from (b) for a correct comparison of median or upper quartile or lower quartile or minimum or maximum eg. the median in group A is greater than the median in group B

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Question		Working	Answer	Mark	Notes
16	(a)		m^{-10}	1	B1 for m^{-10} or $\frac{1}{m^{10}}$
	(b)		$(x + 5)(x - 2)$	2	M1 for $(x \pm 5)(x \pm 2)$ or $x(x - 2) + 5(x - 2)$ or $x(x + 5) - 2(x + 5)$ A1
17	(a)		1	1	B1 cao
	(b)		0.000067	1	B1 cao
	(c)		2.7×10^{14}	2	M1 for $27 \times 10^{7+6}$ or 27×10^{13} oe or an answer of 2.7×10^n where n is an integer or an answer of $a \times 10^{14}$ where $1 \leq a < 10$ A1 cao

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18		$\frac{1}{2} \times 4 \times 3 = 6$ $\left(\frac{1}{2}\right)^2 \times 6 =$	1.5	3	<p>M1 for $\frac{1}{2} \times 4 \times 3$ oe</p> <p>M1 for $\left(\frac{1}{2}\right)^2 \times "6"$</p> <p>A1 cao</p> <p>OR</p> <p>M2 for $\frac{1}{2} \times 2 \times 1.5$ oe</p> <p>(M1 for triangle with all lengths $\frac{1}{2}$ corresponding lengths of triangle ABC seen in any position or vertices seen at (1, 1) (3,1) and (2.5, 2.5) or stated)</p> <p>A1 cao</p>
19	(a)		0.6 0.7, 0.3, 0.7	2	<p>B1 for 0.6 in correct position on tree diagram</p> <p>B1 for 0.7, 0.3, 0.7 in correct positions on tree diagram</p>
	(b)	$0.4 \times 0.3 =$	0.12	2	<p>M1 for 0.4×0.3 oe or a complete alternative method ft from tree diagram</p> <p>A1 for 0.12 oe</p>

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Question	Working	Answer	Mark	Notes
20	$15x + 6y = 33$ $8x - 6y = 36$ $23x = 69$ $5 \times 3 + 2y = 11$ OR $x = \frac{11 - 2y}{5}$ $4 \times \left(\frac{11 - 2y}{5} \right) - 3y = 18$ $44 - 8y - 15y = 90$ $-46 = 23y$ $y = -2$	$x = 3$ $y = -2$	4	<p>M1 for coefficients of x or y the same followed by correct operation (condone one arithmetic error)</p> <p>A1 cao for first solution</p> <p>M1 (dep on M1) for correct substitution of found value into one of the equations or appropriate method after starting again (condone one arithmetic error)</p> <p>A1 cao for second solution</p> <p>OR</p> <p>M1 for full method to rearrange and substitute to eliminate x or y, (condone one arithmetical error)</p> <p>A1 cao for first solution</p> <p>M1 (dep on M1) for correct substitution of found value into one of the equations or appropriate method after starting again (condone one arithmetic error)</p> <p>A1 cao for second solution</p> <p>Trial and improvement 0 marks unless both x and y correct values found</p>

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Question	Working	Answer	Mark	Notes
21*	<p>$ABO = ADO = 90^\circ$ (Angle between tangent and radius is 90°) $DOB = 360 - 90 - 90 - 50$ (Angles in a quadrilateral add up to 360°) $BCD = 130 \div 2$ (Angle at centre is twice angle at circumference)</p> <p>OR $ABD = (180 - 50) \div 2$ (Base angles of an isosceles triangle) $BCD = 65$ (Alternate segment theorem)</p>	65°	4	<p>B1 for $ABO = 90$ or $ADO = 90$ (may be on diagram) B1 for $BCD = 65$ (may be on diagram)</p> <p>C2 for $BCD = 65^\circ$ stated or $DCB = 65^\circ$ stated or angle C = 65° stated with all reasons: <u>angle between tangent and radius is 90°</u>; <u>angles in a quadrilateral sum to 360°</u>; <u>angle at centre is twice angle at circumference</u> (accept angle at circumference is half (or $\frac{1}{2}$) the angle at the centre)</p> <p>(C1 for one correct and appropriate circle theorem reason) QWC: Working clearly laid out and reasons given using correct language</p> <p>OR B1 for $ABD = 65$ or $ADB = 65$ (may be on diagram) B1 for $BCD = 65$ (may be on diagram)</p> <p>C2 for $BCD = 65^\circ$ stated or $DCB = 65^\circ$ stated or angle C = 65° stated with all reasons: <u>base angles of an isosceles triangle are equal</u>; <u>angles in a triangle sum to 180°</u>; <u>tangents from an external point are equal</u>; <u>alternate segment theorem</u> (C1 for one correct and appropriate circle theorem reason) QWC: Working clearly laid out and reasons given using correct language</p>

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22	(a)	<table border="1"> <tr> <td>F</td> <td>15</td> <td>25</td> <td>36</td> <td>24</td> </tr> <tr> <td>Fd</td> <td>3</td> <td>5</td> <td>3.6</td> <td>1.2</td> </tr> </table>	F	15	25	36	24	Fd	3	5	3.6	1.2	Correct histogram	3	<p>B3 for fully correct histogram (overlay) (B2 for 3 correct blocks) (B1 for 2 correct blocks of different widths)</p> <p>SC : B1 for correct key, eg. $1 \text{ cm}^2 = 5$ (cars) or correct values for (freq \div class interval) for at least 3 frequencies (3, 5, 3.6, 1.2)</p> <p>NB: The overlay shows one possible histogram, there are other correct solutions.</p>
F	15	25	36	24											
Fd	3	5	3.6	1.2											
	(b)	$\frac{3}{4} \times 24$	18	2	<p>M1 for $\frac{3}{4} \times 24 (=18)$ oe or $\frac{1}{4} \times 24 (=6)$ oe A1 cao</p> <p>OR</p> <p>M1 ft histogram for $15 \times "1.2"$ or $5 \times "1.2"$ A1 ft</p>										

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23	(a)	$\frac{(x+4)(x-1)}{(2x-3)(x-1)}$	$\frac{x+4}{2x-3}$	3 M1 for $(x+4)(x-1)$ M1 for $(2x-3)(x-1)$ A1 cao
	(b)	$\frac{4(x-2)}{(x+2)(x-2)} + \frac{3(x+2)}{(x+2)(x-2)}$	$\frac{7x-2}{(x+2)(x-2)}$	3 M1 for denominator $(x+2)(x-2)$ oe or x^2-4 M1 for $\frac{4(x-2)}{(x+2)(x-2)}$ oe or $\frac{3(x+2)}{(x+2)(x-2)}$ oe (NB. The denominator must be $(x+2)(x-2)$ or x^2-4 or another suitable common denominator) A1 for $\frac{7x-2}{(x+2)(x-2)}$ or $\frac{7x-2}{x^2-4}$ SC: If no marks awarded then award B1 for $\frac{4(x-2)}{x^2-2} + \frac{3(x+2)}{x^2-2}$ oe

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24	eg. $x = 0.28181\dots$ $100x = 28.181\dots$ $99x = 27.9$	$\frac{31}{110}$	3	M1 for 0.28181(...) or 0.2 + 0.08181(...) or evidence of correct recurring decimal eg. 281.81(...) M1 for two correct recurring decimals that, when subtracted, would result in a terminating decimal, and attempting the subtraction eg. $100x = 28.1818\dots$, $x = 0.28181\dots$ and subtracting eg. $1000x = 281.8181\dots$, $10x = 2.8181\dots$ and subtracting OR $\frac{27.9}{99}$ or $\frac{279}{990}$ oe A1 cao
25	Vol cylinder = $\pi \times (2x)^2 \times 9x$ $= 36\pi x^3$ $36\pi x^3 = \frac{4}{3}\pi r^3$ $r^3 = 27x^3$	$3x$	3	M1 for sub. into $\pi r^2 h$ eg. $\pi \times (2x)^2 \times 9x$ oe M1 for $\pi \times (2x)^2 \times 9x = \frac{4}{3}\pi r^3$ oe A1 oe eg. $\sqrt[3]{\frac{36x^3}{4}} \frac{4}{3}$ NB : For both method marks condone missing brackets around the 2x

1MA0_1H

Question		Working	Answer	Mark	Notes
26	(a)		Parabola through (4, -1), (2, 3), (6, 3) (3, 0) (5, 0)	2	B2 for a parabola with min (4, -1), through (2, 3), (6, 3), (3, 0), (5, 0) (B1 for a parabola with min (4, -1) or a parabola through (2, 3) and (6, 3) or a parabola through (3, 0) and (5, 0) or a translation of the given parabola along the x -axis by any value other than +3 with the points (-1, 3) (0, 0) (1, -1) (2, 0) (3, 3) all translated by the same amount)
	(b)		Parabola through (1, -2), (0, 0), (2, 0)	2	B2 parabola with min (1, -2), through (0, 0) and (2, 0) (B1 parabola with min (1, -2) or parabola through (0, 0), (2, 0) (-1, 6) and (3, 6))