

Paper: 1MA1/1F				
Question	Answer	Mark	Mark scheme	Additional guidance
1	0.38	B1	cao	
2	$\frac{3}{10}$	B1	or any equivalent fraction	3 : 10 or 0.3 or 30% get no marks
3	0.5	B1	cao	
4	-4	B1	cao	
5	5	B1	cao	
6	Explanation	C1	<p>for a correct explanation.</p> <p>Acceptable examples he has labelled the radius incorrectly the diameter (label) should read radius the diameter goes from one side (of the circle) to the other the radius is labelled diameter</p> <p>Not acceptable examples a label is wrong there is nothing wrong with his labels the radius is wrong the centre is wrong, it should be the radius he has incorrectly labelled the diameter</p>	Do not accept a statement that is ambiguous, where one aspect contradicts another, eg. “the radius goes from the centre whereas the diameter goes all round the circle”
7	Three correct factors	B2	for at least three from 1, 2, 4, 5, 10, 20	No incorrect factors No repeats (within the chosen 3) Ignore extra correct factors. Accept factor pairs, eg. 1×20 as two factors
		(B1	for two correct factors from 1, 2, 4, 5, 10, 20 and no more than one incorrect factor)	

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8 (a)	310	M1	for $360 - 50$	
		A1	cao	
(b)	Explanation	C1	<p>for explanation relating to the type of angle 50° is, or an explanation why it is not an obtuse angle</p> <p>Acceptable examples It's (50°) an acute angle an angle below 90 is acute because it (50°) is less than 90 It (50°) is too small to be an obtuse angle an obtuse angle is greater than 90 (but less than 180) an obtuse angle is greater than 50</p> <p>Not acceptable examples because 50° is not an obtuse angle an angle of 50° is a reflex angle an obtuse angle is all angles greater than 90 an obtuse angle is an angle greater than 120 an obtuse angle <u>is 90</u> or more</p>	<p>Do not accept contradictions in the answer, eg. "an obtuse angle is greater than 180 so 50 is an acute angle" or "an obtuse angle is greater than 90 and less than 270"</p>

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9	(a)	(5, 2)	B1	cao	<p>Allow without label, provided unambiguous</p> <p>Need not be labelled if clear. Accept a single line drawn freehand of any length. Accept a dotted (or dashed) line</p>
	(b)	(4, -2) marked	B1	for the point (4, -2) unambiguously marked on the grid	
	(c)	(1, 3)	B1	cao	
	(d)	$y = -4$ shown	B1	for correct single line unambiguously marked	
10	Yes (supported)	P1	for an initial process, eg $6 \times 2 (=12)$ or $80 \div 2 (=40 = 0.40)$ oe or $6 \times 0.8 (= 4.80)$ oe or $6 \div 2 (= 3)$	<p>May work in pounds or pence</p> <p>Allow use of inconsistent units for the first 2 marks</p> <p>Award 0 marks for a correct answer with no supportive working. Answer of 'No' gets C0 irrespective of working, correct or not. Ignore incorrect value for change, if (£) 14.4(0) seen</p>	
		P1	for a process using the special offer eg $6 \times "40" (= 240 \text{ or } 2.40)$ oe or $"4.80" \div 2 (= 2.40)$ oe or $2 + "0.40" (= 2.40)$ oe or $"3" \times 0.8 (= 2.40)$		
		P1	for a complete process to find figures to compare, eg $6 \times 2 + 6 \times "0.40" (= 14.40)$ oe or $15 - "12" - "2.40" (= 0.60 \text{ or } 60\text{p})$		
		C1	for Yes with correct comparable figures, eg Yes and (£)14.4(0) or Yes and (£)0.6(0) or 60p change		

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11 (a)	248	P1	for 700 – 452	
		A1	cao	
(b)	11000	P1	for evidence of rounding values to 1 significant figure, eg 300 or 400 or 10 or 9 or 20	
		P1	(dep on P1) for beginning a process to work with ticket sales, eg. $300 \times 10 (= 3000)$ or $290 \times 10 (= 2900)$ or $297 \times 10 (= 2970)$ or $300 \times 9 (= 2700)$ or $300 \times 9.5 (= 2850)$ or $290 \times 9 (= 2610)$ or $297 \times 9 (= 2673)$ OR $400 \times 20 (= 8000)$ or $390 \times 20 (= 7800)$ or $399 \times 20 (= 7980)$ or $400 \times 19.5 (= 7800)$ or $400 \times 19 (= 7600)$	Note: not $290 \times 9.5 (= 2755)$ or $297 \times 9.5 (= 2821.5)$ Note: not $390 \times 19 (= 7410)$ or $390 \times 19.5 (= 7605)$ or $399 \times 19 (= 7581)$ or $399 \times 19.5 (= 7780.5)$
		A1	for using correct values giving an answer in the range 10 200 to 11 000 from calculations using their rounded values	Award 0 marks for an answer in the range with no supportive working
(c)	Overestimate with reason	C1	(dep on P2 in (b)) for overestimate and reason, eg (ft from (b)) true total amount of money paid will be less as all values were rounded up	Must relate to estimation and not to rounding of their final answer and they must have a final answer to part (b)
12	7	M1	for $(13 + 4 + 5 + 9 + 3 + 8) \div 6$ or “42” $\div 6$	Condone missing brackets for M1
		A1	cao	

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13 (a)	$5a$	B1	cao	Accept the correct 3 terms in any order The A mark is lost for any incorrect subsequent working, eg. $17b + 5c$ Accept $(4d - 3)^2$ or $2 \times (4d - 3)$ or $(4d - 3) \times 2$ Condone missing final bracket, eg $2(4d - 3)$
(b)	$19 - 2b + 5c$	M1 A1	for $-2b$ or $5c$ for $19 - 2b + 5c$	
(c)	$2(4d - 3)$	B1	for $2(4d - 3)$ oe	
14 (a)	27	B1	cao	Award 0 marks for a correct answer with no supportive working.
(b)	$\frac{2}{7}$	B1	or any equivalent fraction	
(c)	No (supported)	P1 P1 C1	for method to find the number of children on Friday eg 0.7×500 oe (= 350) for method to find the number of children on Saturday eg $720 \div 8 \times 5$ oe (= 450) for No with correct figures, eg No and 350 and 450 or No and 100 more on Saturday	

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15	$\frac{5}{14}$	M1 A1	for method to multiply fractions, eg $\frac{6 \times 5}{7 \times 12}$ or to simplify, eg $\frac{1}{7} \times \frac{5}{2}$ OR for a fractional answer equivalent to $\frac{5}{14}$	$\frac{30}{84}$, $\frac{15}{42}$, $\frac{10}{28}$
16	750	M1 A1	for $250 \times (60 \div 20)$ oe or $150 \times (60 \div 20)$ oe or $100 \times (60 \div 20)$ oe cao	
17	27.5	P1 P1 P1 A1	for process to find number of yellow and green counters, eg $200 - 38 - 52 (= 110)$ OR for process to express red and blue counters as a percentage of 200, eg $\frac{38 + 52}{200} \times 100$ oe (= 45) for process to find number of yellow counters and/or the number of green counters eg $"110" \div 2 (= 55)$ OR for process to express the sum of the yellow and green counters as a percentage of 200, eg $\frac{"110"}{200} \times 100 (= 55)$ or $100 - "45" (= 55)$ for a complete process to express the number of yellow counters as a percentage, eg $\frac{"55"}{200} \times 100$ or $"55" \div 2$ for 27.5 oe	

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18	$T = 5b + 28c$	M1 M1 A1	for $5b$ or $28c$ or $T =$ a linear expression in b and/or c for $5b + 28c$ or partially correct formula, eg $T = 5b (+ kc)$ oe or $T = 28c (+ kb)$ oe for $T = 5b + 28c$ oe	Allow $5 \times b$ and $28 \times c$ throughout
19	$8n - 13$	B2 (B1	for $8n - 13$ oe for $8n + k$ where $k \neq -13$ or is absent unambiguously shown)	Accept a different variable eg $8x - 13$ $n = 8n - 13$ or $8n^{\text{th}} - 13$ gets B1 only
20	56.4	M1 A1 A1	for a start to a method, eg $846 \div 15$ or $8.46 \div 0.15$ or $8.46 \div 3 \times 20$ or $282 \div 5$ that leads to 5 as the first digit. or for a complete method with no more than one arithmetic error. for digits 564 identified (ft) dep on M1 for correct placement of the decimal point into their final answer	A start to a repeated subtraction method or a build-up method is acceptable if a correct first digit of 5 is found An answer of $56\frac{2}{5}$ gets 3 marks

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21	$4\frac{7}{8}$	M2 (M1) A1	<p>for a complete method, eg $7 - 2 + \frac{3}{8} - \frac{4}{8}$ condoning error with one numerator or for $\frac{59}{8} - \frac{5}{2} = \frac{59}{8} - \frac{20}{8} (= \frac{39}{8})$ with no more than one error OR for an answer of 4.875</p> <p>for finding two fractions with a correct common denominator, with at least one correct corresponding numerator, eg $\frac{3}{8}, \frac{4}{8}$ or for converting both to improper fractions, eg $\frac{59}{8}, \frac{5}{2}$ OR for 7.375 – 2.5)</p> <p>for $4\frac{7}{8}$ oe eg $4\frac{14}{16}$</p>	<p>At least one improper fraction must be correct Both decimals must be correct</p> <p>Any equivalents must be a mixed number</p>
22	125	P1 P1 P1 A1	<p>for process to find area of one face, eg $150 \div 6 (= 25)$ or $6x^2 = 150$</p> <p>for process to find side length, eg $\sqrt{"25"} (= 5)$</p> <p>for a complete process to find volume, eg “5” × “5” × “5” or “25” × “5”</p> <p>cao</p>	<p>where x is the length of one side</p>

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25 (a)	Description	C1	for a valid description of the relationship Acceptable examples As age increases, weight increases The older you are the greater the weight Positive correlation Not acceptable examples Positive (relationship) age and weight are in proportion strong correlation or correlation is increasing as the babies get older the heavier they get, negative correlation they are directly proportional, weight goes up as age goes up	Accept positive correlation Ignore any comment about strength
(b)	2.5 to 4.5	B2 (B1)	for an answer in the range 2.5 to 4.5 for a suitable line of best fit drawn or for a point on the grid at $(x, 5.8)$ where x lies between 2.5 and 4.5 or a horizontal line drawn from 5.8 across to $(x, 5.8)$ where x is in the range 2.5 to 4.5)	
26	1200	M1 A1	for a fully correct method, eg $240 \div 0.2$ or 240×5 oe cao SC B1 for an answer of 960 or 1440 if M0 scored	
27	3	P1 P1 A1	for process to find area of base, eg $1200 \div 40 (= 30)$ for process to find pressure, eg $90 \div "30"$ cao	
28	$x = 6$ $y = -2$	B1	cao	

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29	16	M1 A1	for simplifying using a correct rule of indices as a first step eg 4^{9-6} (= 4 ³ oe) or 4^{-6-1} (= 4 ⁻⁷ oe) or 4^{9-1} (= 4 ⁸ oe) or $\frac{4 \times 4 \times 4 \times 4 \times 4 \times 4 \times 4 \times 4 \times 4}{4 \times 4 \times 4 \times 4 \times 4 \times 4 \times 4 \times 4}$ or 4 ² cao	
30	$\frac{1}{2}$	B1	for $\frac{1}{2}$ oe	
31	0.06	M1 A1	for 0.2×0.3 oe 0.06 oe	Accept any equivalent fraction or 6%