1MA1 Practice Tests Set 1: Paper 1F (Regular) mark scheme – Version 1.0					
Question		**Working**	**Answer**	**Mark**	**Notes**
1			–5, –3, 4, 6, 9	1	B1 cao
2			4.3	1	B1 cao
3			3/10	1	B1 oe
4			70%	1	B1 cao
5		916(30	5	2	M1 30 – "(16 + 9)" or "30 — 16" — 9 or "30 — 9" — 16 A1 cao
6			4	2	M1 for correct order of operations +7 then ÷3 A1 cao OR M1 for forming the equation $3x - 7 = 5$ and showing intention to add 7 to both sides or divide each term by 3 as a first step A1 cao NB Embedded solutions get M1 mark provided the equation or working is complete.
7		$\frac{60}{2} \times 5 =$	1.50	3	M2 for $\frac{60}{2} \times 5$ oe **OR** 150 seen M1 for $\frac{60}{2}$ OR 30 seen OR 60×5 OR 300 seen OR 0.6×5 OR 3 seen A1 for 1.50 Accept 1.5 or 150p with £ crossed out

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Question		**Working**	**Answer**	**Mark**	**Notes**
8	(a)		12	1	B1 cao
	(b)		9	2	M1 for complete method to find total number of white bread sandwiches or 28 or total number of brown bread sandwiches or 19 A1 cao OR M1 for method to find difference between white and brown ham or ±1 or white and brown egg or ±8 (may result in positive or negative number) A1 cao
9	(i)		Square	3	B1 for square or drawing of a square
	(ii)		$\frac{5}{9}$		M1 for $\frac{n}{9}$, $n < 9$ or 5 or $\frac{5}{m}$, , $m > 5$ A1 for $\frac{5}{9}$ (SC B1 for 5 in 9, 5 out of 9, 5 : 4)
10			48	2	M1 for method to find 15% of 320 A1 cao
11	(a)		9	1	B1 cao
	(b)		50	1	B1 cao

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Question		**Working**	**Answer**	**Mark**	**Notes**
12	(a)	(S, C) (S, F) (S, O) (M, C) (M, F) (M, O)	list of 6 meals	2	B2 cao (B1 for at least 3 more correct pairs and no incorrect pairs or all correct pairs with repeats)
	(b)		$\frac{1}{6}$	1	B1 ft from (a)
	(c)		Reason	1	B1 e.g. lists more than one new combination e.g. there will be 9 different meals e.g. there will be 3 more meals
13		2 + 8 + 2 + 8 = 20 20 ÷ 4 =	5	4	M2 for 2 + 8 + 2 + 8 oe or 20 seen or (2 + 8) ÷ 2 oe (M1 for the sum of 3 sides of the rectangle) M1 (dep) for the sum of 3 or 4 sides of the rectangle ÷ 4 or an attempt to evaluate (2 + 8) ÷ 2 oe to get the length of one side A1 cao SC: B1 for an answer of 4 coming from $\sqrt{2\times 8}$ oe
***14**	(a)		20 45	1	B1
	(b)	Example of figures for comparison 7min 30 sec with 7 min 28 secs 3 mins 43 secs with 3mins 45 secs 224 secs with 225 secs 3mins 44 secs with 3 mins 45 secs	No	3	M1 for doubling Seeta's time or halving Ninal's time or finding the difference between the two times Eg 3 min 45 sec × 2 or (7m 28s) ÷ 2 or 7m 28s-3min 45 secs M1 for a complete method to convert their time(s) to common units with the units stated C1 for No and **correct** figures compared (could be in secs or mins and secs)

<table>
<tr><th colspan="5">1MA1 Practice Tests Set 1: Paper 1F (Regular) mark scheme – Version 1.0</th></tr>
<tr><th colspan="2">Question</th><th>Working</th><th>Answer</th><th>Mark</th><th>Notes</th></tr>
<tr><td>15</td><td></td><td>$\frac{3}{8}+\frac{1}{4}=\frac{3}{8}+\frac{2}{8}=$

OR

<table><tr><td></td><td>1</td><td>4</td></tr><tr><td>3</td><td>XXXX</td><td>12</td></tr><tr><td>8</td><td>8</td><td>32</td></tr></table>
8 + 12 = 20</td><td>$\frac{5}{8}$</td><td>2</td><td>M1 Use of common denominator: $\frac{1}{4}$ as $\frac{2\times1}{2\times4}$ or writing both fractions with a common denominator other than 8 with at least one of the fractions correct.
OR
0.375 + 0.25
A1 $\frac{5}{8}$ Accept 0.625 only
OR
M1 for sight of the addition table and 8 + 12 (= 20)
A1 $\frac{5}{8}$</td></tr>
<tr><td>16</td><td></td><td></td><td>0.6, 0.606, 65%, $\frac{2}{3}$</td><td>2</td><td>M1 for attempt to convert all to the same form for comparison with at least one correct conversion
(Accept at least 0.66, 0.67 66%, 67% or better for $\frac{2}{3}$)
A1 for a correctly ordered list (in any form)
SC B1 for correct numbers in reverse order if no method seen.</td></tr>
<tr><td>17</td><td></td><td></td><td>£1.12</td><td>3</td><td>M1 for use of 1000 g in 1 kg
e.g. 1000 ÷ 200(=5) ; 200 ÷ 1000(=0.2) oe ; 20% ;
500g costs £2.80 ; 100g costs 56p
M1(dep) for a fully correct method
e.g. 5.60 ÷ “5” (= 1.12) or 56 × 2
A1 £1.12 or 112p</td></tr>
</table>

1MA1 Practice Tests Set 1: Paper 1F (Regular) mark scheme – Version 1.0					
Question		**Working**	**Answer**	**Mark**	**Notes**
18			25.60	4	M1 for a correct method to find $\frac{1}{3}$ of 24 (=8) or $\frac{2}{3}$ of 24 (=16) M1 for a correct method to find 60% (= 7.2) or 40% (= 4.8) of 12 or 60% (= 14.4) or 40% (= 9.6) of 24 M1 (dep on at least M1) for a method to find the sum of their discounted adult ticket + 2 × their discounted child ticket A1 25.6(0)
19		452 36 2712 13560 16272	162.72	3	M1 for complete method with relative place value correct. Condone 1 multiplication error, addition not necessary. OR M1 for a complete grid. Condone 1 multiplication error, addition not necessary. OR M1 for sight of a complete partitioning method, condone 1 multiplication error. Final addition not necessary. A2 for 162.72 (A1 (dep on M1) for correct placement of decimal point after final addition of appropriate values or for digits 16272 seen) (SC; B1 for attempting to add 36 lots of 4.52)

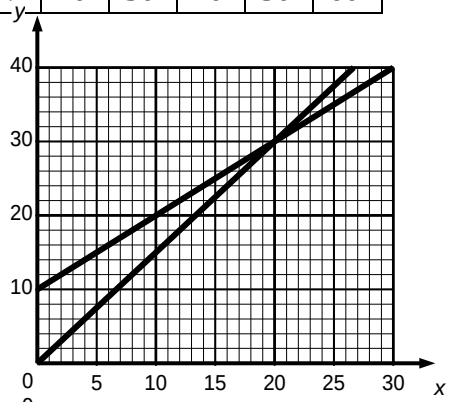
1MA1 Practice Tests Set 1: Paper 1F (Regular) mark scheme – Version 1.0					
Question		**Working**	**Answer**	**Mark**	**Notes**
20		<table><tr><td>x</td><td>-2</td><td>-1</td><td>0</td><td>1</td><td>2</td></tr><tr><td>y</td><td>-4</td><td>-1</td><td>2</td><td>5</td><td>8</td></tr></table>	$y = 3x + 2$ drawn	4	B1 for axes scaled and labelled **(Table of values)** M1 for at least 2 correct attempts to find points by substituting values of x M1 ft for plotting at least 2 of their points (any points from their table must be correctly plotted) A1 for correct line between $x = -2$ and $x = 2$ **(No table of values)** M1 for at least 2 correct points with no more than 2 incorrect points M1 for at least 2 correct points (and no incorrect points) plotted OR line segment of $y = 3x + 2$ drawn A1 for correct line between $x = -2$ and $x = 2$ **(Use of $y = mx + c$)** M1 for line drawn with gradient of 3 OR line drawn with y intercept at 2 M1 for line drawn with gradient of 3 AND with y intercept at 2 A1 for correct line between $x = -2$ and $x = 2$ [SC B2 (indep of B1) for correct line segment between $x = 0$ and $x = 2$ – ignore any additional incorrect line segment(s)]

1MA1 Practice Tests Set 1: Paper 1F (Regular) mark scheme – Version 1.0					
Question		**Working**	**Answer**	**Mark**	**Notes**
21	(a)	(4,0) (3, 0) (3, -1) (2, -1) (2, 2) (4, 2)	Correct position	2	B2 for correct shape in correct position (B1 for any incorrect translation of correct shape)
	(b)		Rotation 180° (0,1)	3	B1 for rotation B1 for 180° (ignore direction) B1 for (0, 1) OR B1 for enlargement B1 for scale factor −1 B1 for (0, 1) (NB: a combination of transformations gets B0)
22	(a)	$\frac{(x+2)^2}{x+2} = \frac{(x+2)}{1}$	$x + 2$	1	B1 $x + 2$ or $\frac{(x+2)}{1}$
	(b)		$6a^5b^2$	2	B2 cao (B1 exactly 2 out of 3 terms correct in a product or a^5b^2 or $6a^{2+3}b^{1+1}$)

1MA1 Practice Tests Set 1: Paper 1F (Regular) mark scheme – Version 1.0					
Question		**Working**	**Answer**	**Mark**	**Notes**
***23**		180 ÷ 9 × 1:180 ÷ 9 × 3:180 ÷ 9 × 5 = 20:60:100 Not enough cement (but enough sand and enough gravel) OR 1 × 15:3 × 15:5 × 15 =15:45:75 15 + 45 + 75 = 135 (<180) Not enough cement (to make 180kg of concrete)	No + reason	4	M1 for 180 ÷ (1 + 3 + 5) (= 20) or 3 multiples of 1: 3: 5 M1 for 1 × ”20” or 3 × ”20” or 5 × ”20” or 20 seen or 60 seen or 100 seen A1 for (Cement =) 20, (Sand =) 60, (Gravel) = 100 C1 ft (provided both Ms awarded) for not enough cement oe OR M1 for (1 × 15 and) 3 × 15 and 5 × 15 or 9 × 15 or sight of the numbers 15, 45, 75 together. M1 for ‘15’ + ‘45’ + ‘75’ A1 for 135 (<180) C1 ft (provided both Ms awarded) for not enough cement oe
24			$71.5 \leq H < 72.5$	2	B1 71.5 B1 72.5

1MA1 Practice Tests Set 1: Paper 1F (Regular) mark scheme – Version 1.0					
Question		**Working**	**Answer**	**Mark**	**Notes**
***25**	(a)		10	1	B1 cao
	(b)		Ed is cheaper up to 20 miles, Bill is cheaper for more than 20 miles	3	M1 for correct line for Ed intersecting at (20,30) ±1 sq tolerance **or** $10 + x = 1.5x$ oe C2 (dep on M1) for a correct full statement ft from graph e.g. 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 e.g. cheaper at 10 miles with Ed ; e.g. cheaper at 50 miles with Bill; e.g. same cost at 20 miles; e.g. for £5 go further with Bill **or** A general statement covering short **and** long distances; e.g. Ed is cheaper for shorter distances **and** Bill is cheaper for long distances); OR 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 $0 < n \leq 50$ C2 (dep on M1) for 20 miles linked with £30 for Ed and Bill with correct full statement e.g. Ed cheaper up to 20 miles **and** Bill cheaper for more than 20 miles

Miles	**0**	**10**	**20**	**30**	**40**	**50**
Ed	0	15	30	45	60	75
Bill	10	20	30	40	50	60



1MA1 Practice Tests Set 1: Paper 1F (Regular) mark scheme – Version 1.0					
Question		**Working**	**Answer**	**Mark**	**Notes**
					(C1 (dep on M1) for a correct conclusion e.g. cheaper at 10 miles with Ed; e.g. cheaper at 50 miles with Bill; e.g. same cost at 20 miles; e.g. for £5 go further with Bill **or** A general statement covering short **and** long distances; e.g. Ed is cheaper for shorter distances **and** Bill is cheaper for long distances) SC: B1 for correct full statement seen with no working e.g. Ed cheaper up to 20 miles **and** Bill cheaper for more than 20 miles QWC Decision and justification should be clear with working clearly presented and attributable
26	(a)		15 – 19	1	B1 for 15 – 19 oe (eg 15 to 19)
	(b)		Frequency polygon through (2, 8), (7, 11), (12, 9), (17, 14) and (22, 18)	2	B2 for a complete and correct polygon (ignore any histograms, any lines below a mark of 2 or above a line of 22, but award B1 only if there is a line joining the first to last point) (B1 for one vertical or one horizontal plotting error OR for incorrect but consistent error in placing the midpoints horizontally (accept end points of intervals) OR for correct plotting of mid-interval values but not joined) Plotting tolerance ± ½ square Points to be joined by lines (ruled or hand-drawn but not curves)

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Question		**Working**	**Answer**	**Mark**	**Notes**
27		$6 \times 10 \times 8 = 480$ $480 \div (6 \times 20) =$	4	3	M1 for $6 \times 10 \times 8$ or 480 seen M1 (dep) for '480' ÷ (6 × 20) oe A1 cao OR M1 for $20 \div 10$ (=2) or $10 \div 20$ (=$\frac{1}{2}$) or $\frac{8}{20}$ oe or $\frac{20}{8}$ oe M1 (dep) for $8 \div$ '2' or $8 \times \frac{1}{2}$ or $\frac{8}{20} \times 10$ oe or $10 \div \frac{20}{8}$ A1 cao SC : B2 for answer of 16 coming from $\frac{20 \times 8 \times 6}{10 \times 6}$ oe
28			54	3	M1 for any correct use of distance, speed, time formulae, e.g. $10 \div 40$ (=0.25) or 15 min M1 (dep) for a complete method to find speed from G to H, e.g. $18 \div (35 - \text{“15”}) \times 60$ oe. A1 cao
29	(a)		1	1	B1 cao
	(b)		$\frac{1}{2}$	1	B1 oe Accept 0.5

National performance data from Results Plus

Qn	Spec	Paper	Session YYMM	Qu	Topic	Mean score	Max score	Mean % all	Mean score of students achieving grade: ALL	C	D	E	F	G
1				NEW			1		No data available for this question					
2				NEW			1		No data available for this question					
3	1387	1F	0711	Q05	Fractions, percentages and decimals		1		No data available for this question					
4	1387	1F	0711	Q05	Fractions, percentages and decimals		1		No data available for this question					
5	1380	1F	0906	Q02	Directed numbers	1.84	2	92	1.84	1.97	1.95	1.90	1.72	1.23
6	1MA0	1F	1311	Q13	Derive expressions	1.69	2	85	1.69	1.94	1.89	1.80	1.54	0.92
7	2540	1F	0806	Q05	Ratio	2.53	3	84	2.53	2.88	2.71	2.46	2.07	1.52
8	1MA0	1F	1306	Q02	Bar charts	2.43	3	81	2.43	2.85	2.75	2.62	2.38	1.86
9	1380	1F	1006	Q11	Probability	2.45	3	82	2.45	2.85	2.67	2.43	2.06	1.49
10	1MA0	1F	1411	Q09	Percentages	1.35	2	68	1.35	1.83	1.62	1.25	0.64	0.29
11	1MA0	1F	1506	Q13	Solve linear equations	1.32	2	66	1.32	1.77	1.53	1.31	1.12	0.96
12	1380	1F	1203	Q15	Sample space diagrams	2.69	4	67	2.69	3.53	3.13	2.54	1.86	1.14
13	1MA0	1F	1206	Q14	Perimeter and area	2.02	4	51	2.02	3.12	2.39	1.91	1.27	0.59
14	1MA0	1F	1303	Q08	Time calculations	2.22	4	56	2.22	2.92	2.45	1.99	1.54	1.13
15	1380	1F	0911	Q16	Fractions	0.64	2	32	0.64	1.29	0.65	0.22	0.09	0.07
16	1MA0	1F	1311	Q17	Fractions, percentages and decimals	0.68	2	34	0.68	1.28	0.79	0.49	0.29	0.23
17	1MA0	1F	1306	Q19	Decimals	0.66	3	22	0.66	1.87	0.97	0.41	0.14	0.04
18	1MA0	1F	1406	Q21	Percentages	1.13	4	28	1.13	2.47	1.80	1.13	0.54	0.23
19	1380	1F	1006	Q27	Four operations	0.90	3	30	0.90	1.82	1.10	0.57	0.23	0.11
20	1MA0	1F	1311	Q26	Graphs of linear equations	1.09	4	27	1.09	2.41	1.41	0.59	0.18	0.06
21	1MA0	1F	1306	Q26	Translations	1.20	5	24	1.20	2.57	1.63	1.04	0.62	0.34
22	1380	1H	1203	Q15cd	Simplify expressions	1.62	3	54	1.62	1.33	0.74	0.45		
23	1MA0	1H	1211	Q13	Ratio	1.76	4	44	1.76	1.60	0.61	0.16		
24				NEW	Bounds		2		No data available for this question					
25	1MA0	1F	1206	Q18	Conversion graphs	0.77	4	19	0.77	1.49	0.88	0.54	0.33	0.21
26	1380	1H	1006	Q08	Frequency diagrams	1.53	3	51	1.53	0.96	0.56	0.34		
27	1MA0	1H	1206	Q12	Volume	1.11	3	37	1.11	0.75	0.48	0.36		
28	1MA0	1H	1506	Q14	Compound measures	1.03	3	34	1.03	0.64	0.23	0.09		
29	1380	1H	0911	Q14	Index laws	0.72	2	36	0.72	0.39	0.20	0.12		
							80							