Mark Scheme (Results)

November 2009

GCSE

GCSE Mathematics (Linear) - 1380
Paper: 1380/1F

1380/1F					
Question		Working	Answer	Mark	Notes
1	(a)		13°C	1	B1 cao
	(b)		15°C	1	B1 cao
	(c)		7pm	1	B1 Accept 1900, 7
	(d)		Decreasing	1	B1 eg decreasing, downwards, falling, –4°, etc.
2	(a)	Three thousand one hundred and four.	3104 words	1	B1 for Three thousand one hundred and four.
	(b)		2500	1	B1 Accept 25 hundred
	(c)		4000	1	B1 Accept 4 thousand, thousands.
3	(a)	27 – 18 + 15 =	24	2	M1 27 – 18 + 15 A1 cao
	(b)	24 ÷ 3 or 24 –3 –3 –3 –3…	8	2	M1 24÷3 or complete method for dividing 24 by 3 A1 cao
4	(a)		24	1	B1 cao
	(b)		20	1	B1 cao
	(c)	Friday 16 = 2 wheels Saturday 28 = 3 wheels (24) + ½ wheel	F: 2 wheels S: 3½ wheels	2	B1 cao B1 cao

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Question		Working	Answer	Mark	Notes
5	(a)		(2,4	1	B1 cao
	(b)		(–3,1)	1	B1 cao
	(c)		(0,–2) marked	1	B1 cao
6	(a)		5, 2, 1	1	B1 for 5, 2, 1 in any order
	(b) (i)		7p	2	B1 cao
	(ii)		19p		B1 cao
7	(a)	23 33 45 57 63		1	B1 cao
	(b)	–5 –3 1 4 6		1	B1 cao
	(c)	0.3 0.315 0.32 0.379 0.39		1	B1 cao
8	(a)		6.8–7.2	1	B1 6.8–7.2
	(b)		Cross	1	B1 Cross within overlay (2.8–3.2 cm from A)
9	(a)		5	1	B1 cao
	(b)		line	1	B1
	(c)		Reflection	1	B1 Correct reflection. Allow vertices slightly misplaced (no more than ¼ side square length)

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Question		Working	Answer	Mark	Notes
10	(a)	3×4+5=(3×4)+5=	17	1	B1 cao
	(b)	8–2×4=8–(2×4)=	0	1	B1 cao
	(c)	42÷(2×3)=42÷6=	7	1	B1 cao
11	(a)		25	1	B1 cao
	(b)		2000	1	B1 Accept "2 thousand"
12	(a)	100–(25+40+20)	15%		B1 15 or 15%
	(b)		Salt &Vinegar		B1 Accept S&V, 2nd, 40%, second OR ft from table
	(c)	$\dfrac{25}{100} = \dfrac{1}{4}$	$\dfrac{1}{4}$	2	B2 for $\dfrac{1}{4}$ (B1 for any equivalent fraction to $\dfrac{1}{4}$, 0.25, $\dfrac{25}{100}$)
	(d)	$200 \times \dfrac{20}{100}$ oe, eg $200 \times 20 \div 100$, $200 \div 5$	40	2	M1 for $200 \times \dfrac{20}{100}$ oe A1 cao SC: 40% gets M1 A0

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Question		Working	Answer	Mark	Notes
13	(a)(i)		7.0–7.5	1	B1 7.0–7.5, $7\frac{1}{4}, 7\frac{1}{2}$
	(ii)		100–120	1	B1 100–120
	(b)(i)		48–52	1	B1 48–52
	(ii)		21–25	1	B1 21–25
14			Triangle	3	B3 Fully correct: One angle and both sides, and drawn as a triangle. (B2 Two of 90°, 8 cm, 4.5 cm) (B1 One angle or one side) Tolerances: Angle of 90±2°, side of 4.5 cm drawn as 4.3–4.7 cm, side of 8cm drawn as 7.8–8.2 cm.
15	(a)		$\frac{4}{7}$	1	B1 $\frac{4}{7}$ oe
	(b)		$\frac{3}{7}$	2	M1 $\frac{3}{x}$, $x > 3$ or 1–(a) oe A1 ft

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Question		Working	Answer	Mark	Notes
16		$\dfrac{3}{8}+\dfrac{1}{4}=\dfrac{3}{8}+\dfrac{2}{8}=$ 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	$\dfrac{5}{8}$	2	M1 Use of common denominator: $\dfrac{1}{4}$ as $\dfrac{2\times1}{2\times4}$ 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 $\dfrac{5}{8}$ Accept 0.625 only Or M1 for sight of the addition table and 8 + 12 (= 20) A1 $\dfrac{5}{8}$
17	(a)	15 × 6 =	90p	2	M1 15×6 or repeated addition of six 15s or fifteen 6s A1 cao
	(b)	75 ÷ 25 =	3p	2	M1 75÷25 or adds up three 25s or subtracts three 25s from 75 A1 cao
18	(a)		173160	1	B1 cao
	(b)		173.16	1	B1 cao

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Question		Working	Answer	Mark	Notes
19	(a)		−2,(0,2),4,6,8	2	B2 for all 4 correct values of *y* (B1 for 2 or 3 correct values of *y*)
	(b)		Line	2	B2 for correct straight line between *x* = −2 and *x* = 3 (B1 for a line which passes through (0, 2), or a line with gradient 2, or at least 4 points from their table plotted correctly)
	(c) (i)		−1	1	B1 for *y*=−1, or ft *x*=−1.5 from any portion of a straight line segment.
	(ii)		2.5	1	B1 for *x*=2.5, or ft *y*=7 from any portion of a straight line segment.
20	(a)		060°	1	B1 (0)57° – (0)62°
	(b)		Cross C	2	B1 cross 4 cm (±0.2cm) from B B1 cross 160° (±2°) from B [SC: B1 cross 4cm and 160° from A)
21	(a)		Reasons	1	B1 eg larger sector
	(b)			1	B1 eg don't know actual numbers
22			Graph	2	B2 complete graph (see overlay) (B1 for 4 points plotted and joined or 6 points not joined.) Note: Tolerance ± 2mm, mark graph between January and June only

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Question	Working	Answer	Mark	Notes
23	423 12 ×12 ×423 4230 4800 846 240 5076 36 5076 grid: 4 2 3 / 0/4 0/2 0/3 (1) / 0/8 0/4 0/6 (2) 400 20 3 4000 200 30 — 10 800 40 6 — 2 4000+200+30+800+40+6=5076	5076	3	M1 for a complete method with relative place value correct. Condone 1 multiplication error, addition not necessary. M1 (dep) for addition of all the appropriate elements of the calculation A1 cao M1 for a complete grid with not more than 1 multiplication error, addition not necessary. M1 (dep) for addition of all the appropriate elements of the calculation A1 cao M1 for sight of a complete partitioning method, condone 1 multiplication error, addition not necessary. M1 (dep) for addition of the all the appropriate elements of the calculation A1 cao M2 for repeated addition, exactly 12 A1 cao

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Question	Working	Answer	Mark	Notes
24 (a)		Enlarged P	2	B2 any correct enlargement (B1 at least one side drawn to a sf of 3) tol $\frac{1}{2}$ sq (B1 correct enlargement by SF $\neq$ 3)
(b)	Triangle at (–4,2),(–2,2),(–2,3)	Reflected P		M1 reflection in any line parallel to *y* axis, or correct reflection in *x* axis. A1 cao
(c)	Triangle at (2,–1),(3,–1),(2,–3)	Rotated Q	3	B3 fully correct (B2 correct orientation in correct quadrant or 90º anticlockwise about *O*) (B1 any rotation about *O* OR correct orientation in incorrect quadrant). SC B1 If Q is plotted correctly in all 4 quadrants then award

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Question		Working	Answer	Mark	Notes
25	(a)		Reasons	2	1st aspect: time frame 2nd aspect: overlapping boxes (eg.'the 5 is in two places' 'the amounts overlap') 3rd aspect: not exhaustive (eg no <£1, other) Award B2 for 2 aspects, B1 for 1 aspect
	(b)		Any 2 of 1st, 2nd and 3rd aspects	2	1st aspect: one question or responses which includes a time frame 2nd aspect: at least 3 non-overlapping response boxes; need not be inclusive of all. 3rd aspect ; Allow for inclusion of (£)0 or use of phrase 'bigger than' oe with at least 3 response boxes Award B2 for two aspects, B1 for one aspect NB response boxes must be intervals but allow 0 on its own for the 3rd aspect
26		(5×5)×6	150 cm^2	4	M1 for attempt to find the area of one face (eg 5×5 or 25) M1 for 6 faces with an intention to add A1 cao B1 (indep) for cm^2 (with or without numerical answer) NB Do not accept any calculation which should lead to 125

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Question	Working	Answer	Mark	Notes
27		$N=4p+20b$	3	B3 for $N=4p+20b$ oe (B2 $4p+20b$ as an expression not in a formula Or $N=k+20b$ oe or $N=4p+k$ oe $k \neq 0$) (B1 for $N= cp + db$, c and d numerical and not both zero Or $k+20b$ oe or $4p+k$ oe any $k\neq 0$) SC B2 for $N = 4p+20b$ subsequently incorrectly simplified SC B2 for $kN = 4p+20b$ $(k \neq 1)$ SC B1 for $4p+20b$ subsequently incorrectly simplified SC B1 for $N = 4p$ (space)$20b$ or $N = 4p \times 20b$
28	$\dfrac{30 \times 5}{0.2} = 150 \div 0.2 = 750$	750–775	3	M1 For correct roundings to 1 sig fig of two or three of the figures or consistent multiples e.g 150, or 155 or two of 30, 5, 0.2 or $\dfrac{31 \times 500}{20}$ or $\dfrac{30 \times 500}{20}$ or $\dfrac{30 \times 500}{21}$ Or A1 for any correct approximate expression which would give the answer after one operation e.g $\dfrac{150}{0.2}$ or $\dfrac{155}{0.2}$ or 150×5 or 30×25 or 31×25 or 155×5 or $\dfrac{1500}{2}$ A1 750–775 Do not accept attempts at full working out

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Question		Working	Answer	Mark	Notes
29	(a)		$2y^2 - 3y$	1	B1 $2y^2 - 3y$ or $2 \times y^2 - 3 \times y$
	(b)		$x(x-4)$	2	B2 $x(x-4)$ or $(x+0)(x-4)$ condone omission of final bracket (B1 x(linear in x) condone omission of final bracket) (B1 for $x-4$)
	(c)		$-1,0,1,2$	2	B2 cao (-1 each error or omission)