

Paper 1MA1: 3F			
Question	Working	Answer	Notes
1		4.5	B1 cao
2		$\frac{19}{100}$	B1 cao
3		even mult of 7	B1 for an even multiple of 7
4		parallelogram	B1 for parallelogram drawn
5		60	B1 cao
6 (a)		3	P1 start of process eg $8 \times 2 \times 28 (= 448)$ P1 eg '448' $\div 200 (= 2.24)$ or build up method A1 cao
(b)		No change with reason	P1 process to evaluate effect of 2.5g C1 explanation that number of jars is unchanged
7		1,3,9 or 2,6,9 or 2,3,6 or 2,3,18 or 2,9,18	M1 3 factors of 18 or 3 numbers with prime total A1 eg 2, 3, 6
8		34	M1 for first step in process eg $17 \times 200 (= 3400)$ A1 cao

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9 (a)		4.6	B1	cao
(b)		4.8025	B1 B1	for 2.7 or 2.1025 (implied by answer of 4.8025) cao
10 (a)		56	B1	cao
(b)		32	B1	cao
(c)		Reason	C1 C1	starts argument eg 8 cars or 8/27 completes argument eg with $1/3 = 9/27$
11		60 litres with evidence	M1 C1	reads from graph, eg $30l = 6.6$ gals or 6 gals = 27l 60 litres with sufficient evidence
12		2.70	P1 P1 A1	start of process $1.95 \times 3 (= 5.85)$ complete process eg $(6.93 - '5.85') \div 0.4$ cao
13 (a) i		115	B1	cao
ii			C1	angles in a triangle add to 180
(b)		100	P1 A1	complete process to find y ft from (a) for 100 or ft from (a)

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14 (a)		9	M1 for $-12$ and $\div 7.80$ A1 cao
(b)		$T = 7.8y + 12$	C1 for $7.8y + 12$ or $T =$ linear expression in $y$ C1 $T = 7.8y + 12$ oe
15 (a)		$\frac{20}{35}$	B1 $\frac{20}{35}$ oe
(b)		3 : 4	M1 15 : 20 A1 cao
16 (a)		No and reason	C1 No and reason eg the mean must be less than 6
(b)		explanation	C1 Should have divided by 30, not by 6
17		Sophie and correct values	P1 process leading to two comparable values eg $75 \div 15 \times 8 (= 40)$ or $56 \div 100 \times 75 (= 42)$ oe P1 complete process leading to 3 comparable values C1 correct deduction with correct comparable values
18		explanation	C1 'The bearing is $335^\circ$ ' or 'She should have measured clockwise from north' oe
19 (a)		0.05	B1 cao
(b)		24	M1 for $120 \times 0.2$ oe A1 cao

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20 (a)		diagram	C1 C1	line drawn from -2 to 3 cao
(b)		$y < 2.25$	M1  A1	for clear intention to subtract 7 from both sides of inequality or equation or divide all terms of inequality or equation by 4 or $4y < 9$ or $2.25$ oe $y < 2.25$ oe as final answer
21		$4n - 7$	M1 A1	method to deduce $n$ th term e.g. $4n + k$ for $4n - 7$ oe
22		171	P1 P1 A1	for process to find one share for process to find total cao
23		plan	C1 C1	a partially correct plan correct plan
24		$t = 3(y + 2a)$	M1  A1	adding $2a$ to both sides or multiplying each term by 3 $t = 3(y + 2a)$ or $t = 3y + 6a$
25		$7.15 \leq x < 7.25$	B1 B1	for 7.15 and 7.25 cao

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26 (a)		improvement	C1 appropriate improvement eg do not have axes starting at (0, 0)
(b)		explanation	C1 explanation eg pine cone has a very short width for its length
27 (a)		1.95	M1 method to find one temperature eg $4500 \div 1200$ M1 for complete method A1 cao
(b)		D	B1 cao
28		complete chain of reasoning	C1 starts chain of reasoning eg finds area of large square and area of triangle or use of Pythagoras C1 for $(x + y)^2 - 4 \times (x \times y \div 2)$ oe or $\sqrt{x^2 + y^2} \times \sqrt{x^2 + y^2}$ C1 complete chain of reasoning with correct algebra

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29 (a)		36.4	P1 start process eg method to find area of trapezium P1 complete process to find volume of tank P1 process to find time eg $\text{volume} \times 1000 \div 300$ P1 process to find 85% of volume or of time A1 for 36.4 or 36 mins 24 secs
(b)			C1 explanation eg if the average rate was slower it would take more time, if the average rate was faster it would take less time
30		48	P1 process to start solving problem, eg forms an appropriate equation P1 complete process to isolate terms in $x$ A1 for $x = 6.5$ oe B1 ft (dep P1) for correct perimeter for their $x$