

Paper 1MA1: 2F			
Question	Working	Answer	Notes
1		6.66	B1 cao
2		0.4375	B1 cao
3		27 or 64	B1 cao
4		7.3225	M1 for 5.5225 or 1.8 A1 cao
5		$\frac{2}{3}$	B1 oe
6		eg. 1, 2, 18	P1 Starts process eg. Lists at least 2 multiples from 9, 18, 27, 36, 45 or lists at least 2 factors from 1, 2, 4, 5, 8, 10, 20, 40 P1 Continues process eg. gives a set of numbers whose sum is greater than 20 but less than 30 but numbers may not all be appropriate factors/multiples A1 Gives 3 numbers that meet all the criteria

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7		$\frac{53}{64}$	P1 A1	for interpreting information e.g. recognising that the shaded area = $3 - \left(\frac{1}{4} \times \frac{1}{4}\right) + \left(\frac{1}{4} \times \frac{1}{4} \times \frac{1}{4}\right)$ or adding in lines to diagram to show 64ths cao
8			C1 C1 C1	Any one correct statement eg. No key, y axis label, 4 missing on y axis Any 2 nd correct statement Any 3 rd correct statement
9		13	M1 A1	Puts numbers in order or clear attempt to find 5 th number or (9 + 1)/2 or selects 11
10 (a) (b)		$p + c$ $\frac{14}{3}$	B1 M1 A1	adds 5 to both sides of equation oe
11 (a) (b)		eg. $2 \times 5 = 10$ explanation	B1 P1 C1	example given two prime numbers identified conclusion which also shows at least one calculation with prime numbers or identifies one of the prime numbers as 2.

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12 (a)		graph	C1 introduce a scale for the y axis
			C1 plots at least 2 points correctly
(b)		15 miles (supported)	C1 fully correct and complete graph
			M1 reads off graph eg 20 km = 12-13 miles or 15 miles = 24 km or uses table
			C1 states 15 miles (24 km) with appropriate evidence
13		shown	B1 $ABC = 80$
			M1 $180 - 80^\circ - 50^\circ$
			A1 $ACB = 50$
			C1 statement that since $ACB = CAB = 50^\circ$ with reasons eg <u>Vertically opposite angles are equal</u> , <u>Angles in a triangle add up to 180°</u> , The <u>exterior angle of a triangle is equal to the sum of the interior opposite angles</u> ; Base angles of an <u>isosceles triangle are equal</u> .
14		13.9	P1 finds the volume of a cuboid eg $50 \times 40 \times 60 (=120000)$
			P1 finds 35% of the oil from the cuboid eg 120000×0.35 oe $(=42000)$
			P1 removes 35% of oil from cuboid eg $120000 - 42000 (=78000)$
			P1 division to find missing side length eg $78000 \div (80 \times 70)$ or 13.928...
			A1 for answer to an appropriate degree of accuracy eg (13.9 or 14 or 10)

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15		22.5	M1 A1	interpret information eg use the scale
16		12	M1 A1	Starts to list factors of writes at least one number in terms of prime factors or identifies a common factor other than 1 cao
17	£ per kg: $1.89 \div 2 = 0.945$ (94.5); $4.30 \div 5 = 0.86$ (86); $8.46 \div 9 = 0.94$ (94) kg per £: $2 \div 1.89 = 1.058(2..)$; $5 \div 4.30 = 1.162(79...)$; $9 \div 8.46 = 1.0638(297...)$ Price per 90 kg: $1.89 \times 45 = 85.05$; $4.30 \times 18 = 77.4(0)$; $8.46 \times 10 = 84.6(0)$	5 kg (supported)	P1 P1 C1	for a process (for at least two boxes) of division of price by quantity or division of quantity by price or a complete method to find price of same quantity or to find quantity of same price for a complete process to give values that can be used for comparison of all 3 boxes for 5 kg and correct values that can be used for comparison for all 3 boxes and a comparison of their values
18		11	M1 A1	process of substitution demonstrated eg $5 \times 3 + 2 \times -2$ cao

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19		720	P1	attempt to find the maximum biscuits for one of the ingredients e.g. $5000 \div 15 (=33.3.)$ or $2500 \div 75 (=33.3.)$ or $3000 \div 100 (=30)$ or $320 \div 10 (=32)$ for identifying butter as the limiting factor or $30 \times 24 (=720)$ seen
20			A1	
(a)		$3(f + 3)$	B1	cao
(b)		$(x - 5)(x + 3)$	M1	for $(x \pm 5)(x \pm 3)$
			A1	cao
21		$p=qr-sr$	M1	for multiplying all 3 terms by r or isolating p/r term
			A1	oe
22		90	P1	for the process of finding an area eg $6 \times 11 (=66)$
(a)			P1	(dep on area calculation) for the process of working out the number of tins eg " 66 " $\div 12 (=5.5$ or 6 tins)
			P1	for the process of working out the cost eg " 6 " tins $\times$ $\pounds 15$
			A1	cao
(b)		reason	C1	she might need to buy more tins

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23		96			P1 a strategy to start to solve the problem eg $18 \div (7 - 4) (=6)$ P1 for completing the process of solution eg “6” $\times (4 + 5 + 7)$ A1 cao	
24		20.9			M1 correct recall of appropriate formula eg $\sin x = \frac{5}{14}$ A1 for 20.9(248...)	
25 (a)		$4n+2$			M1 start to deduce nth term from information given eg $4n+k$ where $k \neq 2$ A1 cao	
(b)		No (supported)			M1 start to method that could lead to a deduction eg uses inverse operations C1 for a convincing argument eg 34 is 107 so NO; $(108-5) \div 3$ is not an integer	
26		conclusion (supported)			P1 $30 \div 70 (=0.428)$ P1 $60 \times “0.428...”$ C1 for conclusion linked to 25.7 mins, 30.3 miles or 69.2 mph	26 $\div 60 (=0.4333...)$ 30 $\div 26 (=1.153...)$ 70 $\times “0.4333...”$ 60 $\times “1.153...”$

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27 (a) (b)		$22 \leq f < 24$	B1
		21.9	M1 $x \times f$ using midpoints
			M1 (dep on previous mark) " $x \times f$ " $\div 40$
			A1 accept 22 if working seen
28		9.54	P1 $10^2 - 5^2 (=75)$
			P1 "75" $+ 4^2 (=91)$
			P1 $\sqrt{(10^2 - 5^2 + 4^2)}$
			A1 $9.53 - 9.54$
29		0.06	M1 for 0.2 and 0.3
			A1 cao