


Question	Working	Answer	Mark	Notes
1		$3a + 7b$	2	B2 for $3a + 7b$ oe (B1 for $3a$ or $7b$ oe)
2 (i) (ii) (iii)		11931 11931 123	3	B1 cao B1 cao B1 cao
3(a) 3(b) 3(c)		Points plotted Positive 155 - 165	1 1 2	B1 for correct points plotted $\pm 0.5$ square B1 for positive correlation B2 for an answer in the range 155 – 165 (B1 for a line of best fit drawn if answer outside the range)
4	$30 \times 30 \times 80 \div 6 \times 6 \times 10$ $72000 \div 360$ Or $30 \div 6 \times 30 \div 6 \times 80 \div 10$ $5 \times 5 \times 8$	200	3	M1 for $30 \times 30 \times 80 \div 6 \times 6 \times 10$ Or $30 \div 6 \times 30 \div 6 \times 80 \div 10$ M1 for $72000 \div 360$ Or $5 \times 5 \times 8$ A1 cao
*5(a)  *5(b)		Response boxes too vague No time period or vague response boxes	1  1	C1 for a valid explanation  C1 for a valid explanation

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6(a)			2	B2 cao (B1 for a 2x3 rectangle only)
6(b)			2	B2 for an accurate 3D sketch (B1 for a 3D sketch with an ‘L’- shaped cross section)
7 (i)	180 – 113	67	4	M1 for 180 – 113 A1 cao
(ii)		corresponding (alternate) angles angles on a straight line sum to 180°		B1 for corresponding (alternate) angles B1 for angles on a straight line sum to 180°
8(a)		Diagrams drawn, bar charts, pie charts, frequency polygon, stem & leaf	3	B3 for fully labeled comparative diagrams (Deduct one mark for each omission or error type)
8(b)		German marks higher than French marks, for example	1	B1 for any correct comparison made
9	Sports 4 all: $5 + 4.5 \times 12 = \text{£}59$ Edexcel: $70 \times 4/5 = \text{£}56$ Keef's: $50 \times 1.2 = \text{£}60$	Edexcel Sports gives the best deal since $\text{£}56$ is the least cost	5	M1 for $5 + 4.5 \times 12$ M1 for $70 \times 4/5$ M1 for $50 \times 1.2$ A1 for fully correct arithmetic C1 ft for Edexcel Sports supported by ‘correct’ prices

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10		42 cm <sup>3</sup>	3	B3 for fully correct diagram (B2 for 4 out of 6 squares correctly placed, B1 for 2 out of 6 squares correctly placed)
11	Stuart: $r \times 4 + b \times 1 = 4r + b$ Helen: $2 \times 4 + 2b \times 1 = 8 + 2b$	$4r + 3b + 8$	4	M1 for $r \times 4 + b \times 1 (= 4r + b)$ B1 for $2b$ for Helen's blue cards M1 for $2 \times 4 + 2b \times 1 (= 8 + 2b)$ A1 cao
12	$x + 4 + x + 3 + x - 1 = 3x + 6$ $3x + 6 = 19$ $3x = 13$	13/3 oe	3	M1 for $x + 4 + x + 3 + x - 1 (= 3x + 6)$ M1 for $3x + 6 = 19$ A1 for 13/3 oe
13	$60000 \times 2/100 = 1200$ $(80000 - 60000) \times 1/100 = 200$ $1200 + 200$	1400	4	M1 for $60000 \times 2/100 (= 1200)$ M1 for $80000 - 60000$ M1 for '80000 - 60000' $\times 1/100 (= 200)$ A1 cao
14 (i) (ii)	360 - 140	060 220	3	B1 cao M1 for 360 - 140 A1 cao
15(a)	$\frac{2}{5} + \frac{3}{10} = \frac{4}{10} + \frac{3}{10}$	$\frac{7}{10}$	2	M1 for changing to a common denominator with at least one correct numerator A1 cao
15(b)	$5 - 2 = 3$ $\frac{2}{3} - \frac{1}{4} = \frac{8}{12} - \frac{3}{12} = \frac{5}{12}$	$\frac{5}{312}$	3	M1 for $5 - 2 = 3$  M1 for $\frac{1}{4} = \frac{8}{12} - \frac{3}{12} = \frac{5}{12}$  A1 for $\frac{5}{312}$ oe

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16		perpendicular	2	B2 for a correct perpendicular constructed with accurate intersecting arcs. (B1 for a perpendicular drawn)
17(a) 17(b)		$10000 < x \leq 14000$ $14000 < x \leq 16000$	1	B1 cao B1 cao
18	$x = (-5 + 7)/2$ $6 = (1 + y)/2$	1, 11	2	M1 for either $x = (-5 + 7)/2$ or $6 = (1 + y)/2$ A1 for $x = 1$ and $y = 11$ [B1 for either $x = 1$ or $y = 11$ if M0 scored]
19(a)		$5(x - 2)$	1	B1 cao
19(b)		$2p(p - 2q)$	2	B2 cao (B1 for correct partial factorization)
19(c)	$t^2 + 5t - 4t - 20$	$t^2 + t - 20$	2	M1 for 3 out of 4 correct terms or 4 terms with incorrect signs only
19(d)		-2, -1, 0, 1, 2	2	B2 for all 5 correct integers and no extras (-1 for each error or omission up to a maximum of -2)
20	N boys    2N girls $3N/5 + 2N/10 = 4N/5$ $4N/5 \div 3N$	4/15	4	M1 for $3N/5$ or $2N/10$ oe M1 for $3N/5 + 2N/10$ oe M1 for ' $4N/5$ ' $\div 3N$ A1 for $4/15$ oe

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21	$4x - 6y = 22$ $15x + 6y = 74$ $19x = 96$  $2 \times 4 - 3y = 11$	$x = 4, y = -1$	4	M1 for a correct process to eliminate either $x$ or $y$ (condone one arithmetic error) A1 for either $x = 4$ or $y = -1$ M1 (dep on 1 <sup>st</sup> M1) for correct substitution of their found variable A1 for both $x = 4$ and $y = -1$
22(a)	Stars: $4/9 \times 3/8 = 12/72$ Hearts: $3/9 \times 2/8 = 6/72$ $12/72 + 6/72 = 18/72$	$1/4$	3	M1 for $4/9 \times 3/8 (= 12/72)$ or $3/9 \times 2/8 (= 6/72)$ M1 for '12/72' + '6/72' A1 for $1/4$ oe
22(b)	$1440 \times 12/72 \times 1.50 = 360$ $1440 \times 6/72 \times 2 = 240$ $1440 - 360 - 240$	840	4	M1 for $1440 \times 12/72$ or $1440 \times 6/72$ M1 for $1440 \times 12/72 \times 1.50 (= 360)$ or $1440 \times 6/72 \times 2 (= 240)$ M1 for $1440 - '360' - '240'$ A1 cao
23(a)	Angle $XBD = 60/2 = 30$ Angle $DAC = 90 - 60 = 30$	Proof	2	B1 for all correct angles of 30, 60 and 90 shown B1 for 'triangles BXD and ACD have identical corresponding angles, both being 30, 60, 90 degree triangles' for example
23(b)	$AD = \sqrt{2^2 - 1^2} = \sqrt{3}$ $XD/CD = BD/AD$ $XD/1 = 1/\sqrt{3}$	Proof	3	M1 for $AD = \sqrt{2^2 - 1^2} (= \sqrt{3})$ M1 for $XD/CD = BD/AD$ oe A1 for completing the proof

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24	$\frac{(x-3)(x+3)}{(2x+3)(x-3)}$	$\frac{x+3}{2x+3}$	3	M1 for $(x-3)(x+3)$ M1 for $(2x+3)(x-3)$ A1 cao
25	$2^t(\sqrt{8} - \sqrt{2}) = 64 = 2^6$ $2^t(2\sqrt{2} - \sqrt{2}) = 2^6$ $2^t \times \sqrt{2} = 2^6$ $2^t \times 2^{1/2} = 2^6$ $t + 1/2 = 6$	$5\frac{1}{2}$	5	M1 for $2^t(\sqrt{8} - \sqrt{2}) = 64$ M1 for $2^t(2\sqrt{2} - \sqrt{2}) = 64$ M1 for $2^t \times 2^{1/2} = 2^6$ M1 for $t + 1/2 = 6$ A1 cao
26	3G, 4R      1G, 3Y $\frac{3}{7} \times \frac{1}{4}$	$\frac{3}{28}$	3	M1 for $\frac{3}{7}$ or $\frac{1}{4}$ M1 for $\frac{3}{7} \times \frac{1}{4}$ A1 for $\frac{3}{28}$ oe
27 (i) (ii) (iii)		100 100 4	3	B1 cao B1 cao B1 cao

Quest.	Topic/name	AO1	AO2	AO3	Total		FE	Nu	Man Alg	Non Man alg	G	S	Total#1	Low	Mid.	High	Total#2
1	Simplify	2			2				2				2	2			2
2	Numbercalcs	3			3			3					3	3			3
3	Height/Wt	2	2		4							4	4	4			4
4	Light bulbs		3		3		3				3		3	3			3
5	Questionnaire	2			2		2					2	2	2			2
6	3D sketch	4			4						4		4	4			4
7	Parallel lines	2	2		4						4		4	4			4
8	Languages		4		4							4	4	4			4
9	Trainers			5	5		5	5					5	5			5
10	Symmetry	3			3						3		3	3			3
11	Cards			4	4				4				4	4			4
12	Perimeter			3	3				3				3	3			3
13	estate agent			4	4		4	4					4	4			4
14	Bearings	3			3						3		3	3			3
15	Fractions	5			5			5					5	2	3		5
16	Construction	2			2						2		2		2		2
17	Class intervals	2			2							2	2	1	1		2
18	Midpoint		2		2					2			2		2		2
19	Factorise	7			7				7				7	1	6		7
20	Sporty students		4		4			4					4		4		4
21	Sim Eqns	4			4				4				4		4		4
22	Summer Fete		3	4	7		7	2				5	7			7	7
23	Sim Triang		3	2	5						5		5			5	5
24	Alg fraction	3			3				3				3			3	3
25	Ind and Surds		5		5			2	2		1		5			5	5
26	sweets		3		3							3	3			3	3
27	Trig graph	3			3					3			3			3	3
	Totals	47	31	22	100	0	21	25	25	5	25	20	100	52	22	26	100
	Percentage	47.0	31.0	22.0	100.0		21.0		Al:	30				52.0	22.0	26.0	
	Foundation % target:	40-50	30-40	15-25			30-40						Target %:	50	25	25	
	Higher % target:	40-50	30-40	15-25			20-30										