13+/14+ Mark Scheme

Q1.

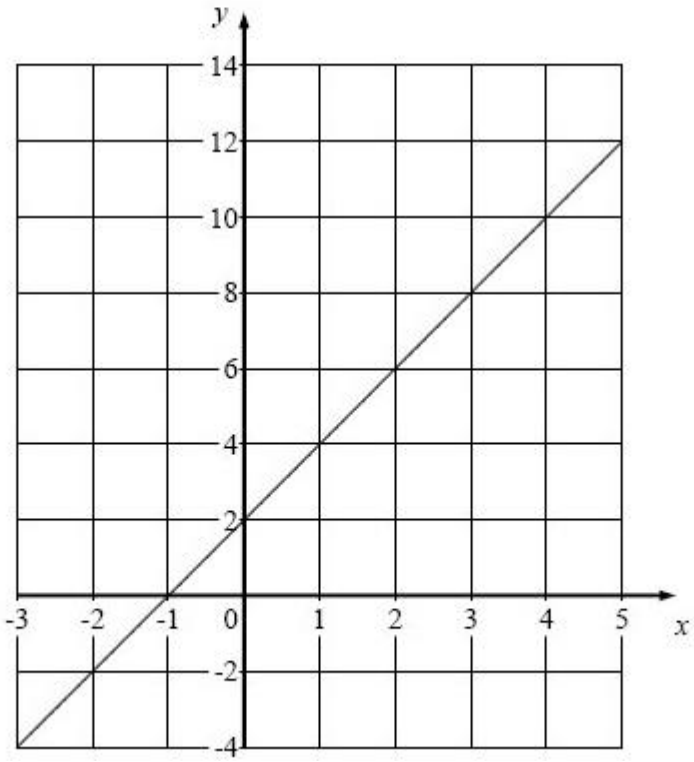
		Working	Answer	Mark	Notes
	(a)		$6x - 3y$	2	M1 for an attempt to combine terms in x **or** terms in y correctly eg $5x + x(= 6x)$, $4y - 7y(= -3y)$ A1 for $6x - 3y$ oe
	(b)	$7x + 14 = 7$ or $x + 2 = 1$ $7x = -7$	$x = -1$	2	M1 for correctly expanding the bracket or an attempt to divide both sides by 7 e.g. $7x + 14$ or $x + 2 = 7 \div 7$ oe A1 cao

Q2.

PAPER: 1MA0_1H					
Question		**Working**	**Answer**	**Mark**	**Notes**
	(a)		$\frac{2}{21}$	1	B1 for $\frac{2}{21}$
	(b)		$\frac{4}{15}$	2	M1 for attempting to use a suitable common denominator with at least one of the two fractions correct A1 for $\frac{4}{15}$ oe

Q3.

		Working	Answer	Mark	Notes
	(a)		x: −2, −1, 0, 1, 2, 3, 4 y: -2, **0**, **2**, **4**, 6, **8**, **10**	2	B2 cao (B1 for any 2 correct values)
	(b)		Correct graph	2	B2 correct line through at least 2 correct points (B1 for correct points plotted or ft from their table if at least B1 earned in part (a))



Q4.

		Working	Answer	Mark	Notes
	(i)	2 2 3 3 3 4 4 5 5 6	3.5	6	M1 for ordering the data condone one extra or one omission A1 for 3.5 or 3½
	(ii)		4		M1 for 6 – 2 or 2 – 6 A1 cao
	(iii)		3.7		M1 for (2+2+3+3+3+4+4+5+5+6) ÷ 10 condone missing brackets or 37÷10 A1 for 3.7 or $3\frac{7}{10}$ [SC B1 for 31.6 or 33.4]

Q5.

Question	Working	Answer	Mark	Notes
		187	M1	for a method to find a missing length, e.g. $15 - 7$ (= 8) **or** $22 - 9$ (= 13) (may be seen on the diagram)
			M1	for a method to find the area of the triangle, e.g. $((15 - 7) \times (22 - 9)) \div 2$ (= 52) **or** to find the area of the rectangle, e.g. 9×15 (= 135)
			A1	cao

Q6.

Question	Answer	Mark	Mark scheme	Additional guidance
	$9p + 13$	M1	for method to expand one bracket, eg $5 \times p + 5 \times 3$ ($= 5p + 15$) or $2 \times 1 - 2 \times 2p$ ($= 2 - 4p$) or $-2 \times 1 - 2 \times -2p$ ($= -2 + 4p$)	If an attempt is made to multiply by -2 in the second brackets then it must be done consistently.
		A1	cao	

Q7.

PAPER: 5MB2H_01					
Question		Working	Answer	Mark	Notes
			350	3	M1 for finding 30% of 500 (=150) M1 dep for subtraction of discount from 500 A1 cao OR M1 for $1 - 0.3$ (= 0.7) M1 dep for $500 \times$ "0.7" A1 cao

Q8.

Question		Working	Answer	Mark	Notes
	(a)	$6p - 15 = 21$ $6p = 36$ OR $2p - 5 = 7$ $2p = 12$	6	3	M1 $3 \times 2p - 3 \times 5$ or $6p - 15$ M1 "6"p - "15" + "15" = 21 + "15" A1 cao OR M1 $2p - 5 = 21 \div 3$ M1 $2p$ - 5 + 5 = 5 + "7" A1 cao
	(b)	$9x - 11 = 5x + 7$ $9x - 5x = 7 + 11$ $4x = 18$	4.5	3	M1 correct method to isolate either the term in x or the numerical term e.g $9x - 5x - 11 = 5x - 5x + 7$ or $9x = 5x + 18$ A1 $4x = 18$ or $-18 = -4x$ A1 4.5 oe

Q9.

Question	Working	Answer	Mark	Notes
		$T = 5x + 20y$	3	B3 for $T = 5x + 20y$ oe (B2 for $5x + 20y$ or $T = 5x + y$ or $T = x + 20y$ or $T = 20x + 5y$) (B1 for $T =$ a two term linear expression in x and y, or $5x + y$ or $x + 20y$)

Q10.

5MB2H_01 November 2015					
Question		Working	Answer	Mark	Notes
			$A = 9x^2 + 19x - 6$	4	B1 for one of $5x - 2$ or x found M1 for correct method to find area of one relevant rectangle. M1 for complete method to find whole area or simplified expression $9x^2 + 19x - 6$ or correct but not simplified formula A1 for correct, simplified formula $A = 9x^2 + 19x - 6$

Q11.

5MB1H_01					
Question		Working	Answer	Mark	Notes
		$(x + x + 3 + 2x) \div 3$	$\frac{x + x + 3 + 2x}{3}$ oe	2	M1 $x + x + 3 + 2x$ (=4x+3) oe or 4x+3÷3 oe A1 $\frac{x + x + 3 + 2x}{3}$ oe

Q12.

5MB2H November 2016					
Question	Working	Answer	Mark	Notes	Type
(a)	$7a + 4a - 8b$	$11a - 8b$	2	M1 for $4a - 8b$ A1 for $11a - 8b$	G
(b)		n^{11}	1	B1 cao	C
(c)		$5(x + 2)$	1	B1 cao	G

Q13.

PAPER: 5MB3H_01				
Question	Working	Answer	Mark	Notes
		40	2	M1 for 32 ÷ 20 (= 1.6) or 32 × 25 (= 800) or 20:25 (or use of) A1 cao

Q14.

5MB2H_01 November 2015					
Question		Working	Answer	Mark	Notes
			7.21 (am)	3	M1 for listing multiples 9,18,27,36 and 12,24,36 (condone 1 arithmetic error) or method to find LCM M1 for identifying 36 as LCM A1 cao OR M1 for listing times 6.54, 7.03, 7.12, 7.21 or for listing times 6.57, 7.09, 7.21 (condone one arithmetic error) M1 for listing times 6.54, 7.03, 7.12, 7.21 **and** 6.57, 7.09, 7.21 (condone one arithmetic error) A1 cao

Q15.

Question	Working	Answer	Mark	Notes
	£6 − £5.64 = 36p or 50p – 47p = 3p	6.4	P1	for a strategy to compare the same number of bottles e.g. £5.64 ÷ 12 (= 47 or 0.47) or 12 × 50p (= 6 or 600) or 36 or 0.36 or 3 or 0.03
			P1	for start of process to find percentage profit e.g. $\frac{"36"}{564}$ or $\frac{"3"}{"47"}$ or $\frac{"6"}{5.64}$ or $\frac{50}{"47"}$ oe with consistent units
	6.3829787…%		A1	for answer in the range 6.3 to 6.4

Q16.

5MB1H_01					
Question		Working	Answer	Mark	Notes
*		2×462+251 =1175, 0.95×1175 = £1116.25 2×485+218 =1188, 1188 – 75 = £1113.00	Jetstream	5	M1 for identifying correct costs for either Highway Airlines or Jetstream Airlines M1 for attempt to calculate the costs for the family eg 2×"462"+"251" or 2×"485"+"218" M1 for a correct method to work out the discount for one company eg 0.95 × "1175" or 0.05 × "1175" or "1188" – 75 oe A1 for (£)1116.25 and (£)1113.00 C1 (dep on M1) calculations clearly identified with each airline and correct decision from their figures

Q17.

PAPER: 1MA0/1H				
Question	Working	Answer	Mark	Notes
		10	3	M1 for 15 × 7 (= 105) or 9 × 5 (= 45) M1 for (15 × 7 – 9 × 5) ÷ (15 – 9) A1 cao

Q18.

PAPER: 1MA0/1H				
Question	**Working**	**Answer**	**Mark**	**Notes**
*		95° with reasons	4	M1 for angle $DBC = 180 - 125$ (= 55) **or** angle $EAC = 180 - 125$ (=55) (May be on diagram) A1 for $x = 95$ C2 (dep on M1) with full reasons for their given method, e.g. angles on a straight line add up to 180° **and** angles in a triangle add up to 180° **and** corresponding angles are equal **or** allied angles / co-interior angles add up to 180° **and** angles in a triangle add up to 180° (C1 (dep on M1) for one appropriate reason linked to parallel lines) M1 for angle $CDB = 125 - 30$ (= 95)) (May be on diagram) A1 for $x = 95$ C2 (dep on M1) for full reasons, for their given method, e.g. exterior angles are equal to the sum of the interior opposite angles **and** corresponding angles are equal (C1 (dep on M1) for one of these appropriate reasons linked to parallel lines)

Q19.

PAPER: 1MA0_2H				
Question	**Working**	**Answer**	**Mark**	**Notes**
		$5\frac{2}{3}$	4	M1 for $AB = 2x$ or $DC = 2x + 4$ or for $38 - 4$ M1(dep) for x + "x" + "$2x$" + "$2x + 4$" or for "$38 - 4$" ÷ 6 M1 for "$6x + 4$" = 38 A1 for $5\frac{2}{3}$ oe NB: Accept answers in the range 5.6 to 5.7 if M3 scored. SC if M0 then B2 for answer in range 5.6 – 5.7

Q20.

PAPER: 5MB3F_01					
Question		**Working**	**Answer**	**Mark**	**Notes**
	(a)		3.5	1	B1 cao
	(b)		3000	1	B1 cao
	(c)		30000	2	M1 for 3 × 100 × 100 oe A1 cao

Q21.

Question	Working	Answer	Mark	Notes
(a)		20.3	2	M1 for $\frac{50}{1.57^2}$ oe A1 for answer in range 20.2 to 20.3
(b)		68.04	2	M1 for (m =) $1.8^2 \times 21$ oe A1 for 68.04
(c)		2.61	3	M2 for a complete method to find 145% of 1.8, eg. $\frac{145}{100} \times 1.80$ oe (M1 for a method to find 45% of 1.8, eg. $\frac{45}{100} \times 1.80$ (= 0.81) or for a multiplication factor of 1.45) A1 cao