

Q1. (2018)

A)

28(a)	$5 - 2x$	B1	may be implied
	$3(x - 1) + 7$ or $3x + 4$	M1	oe ignore incorrect expansion if $3(x - 1) + 7$ seen
	$9 + x$	A1	
	Additional Guidance		
	Working out $2f(x)$		B0
	Working out $g(x + 1)$		M0

B)

28(b)	Alternative method 1		
	$x - 7 = 3y$ or $y - 7 = 3x$	M1	allow $x - 7 = 3g$ or $g - 7 = 3x$
	$\frac{x-7}{3}$ or $\frac{y-7}{3}$	A1	oe allow $\frac{g-7}{3}$
	-1.4 or $-\frac{7}{5}$	A1	oe
	Alternative method 2		
	$3(2x) + 7$	M1	oe
	$x = 3(2x) + 7$ or $x = 6x + 7$	A1	oe equation
	-1.4 or $-\frac{7}{5}$	A1	oe
	Additional Guidance		
	Beware $-3x - 7 = 2x$ leading to -1.4		M0A0A0

Q2. (2021)

Q	Answer	Mark	Comments
5	$10x + 3x$ or $13x$ or $-3x - 10x$ or $-13x$	M1	may be implied eg $62.4 \div 13$ or $-62.4 \div -13$
	4.8 or $4\frac{4}{5}$ or $\frac{24}{5}$	A1	oe eg $\frac{624}{130}$
	Additional Guidance		
	$\frac{-24}{-5}$		M1A0
	Correct answer embedded eg $10 \times 4.8 = 62.4 - 3 \times 4.8$		M1A0
	Ignore conversion attempt after correct answer seen		

Q3. (2022)

Q	Answer	Mark	Comments
5	Alternative method 1		
	$10x - 5$	M1	may be seen in a grid
	their $10x - 6x = 9 +$ their 5 or $4x = 14$ or $14 \div 4$ or $7 \div 2$	M1	oe eg their $-5 - 9 = 6x -$ their $10x$ or $4x - 14 = 0$ collecting two terms in x and two constant terms correctly
	$\frac{14}{4}$ or $3\frac{2}{4}$ or $\frac{7}{2}$ or $3\frac{1}{2}$ or 3.5	A1ft	oe ft M1M0 or M0M1 with exactly one error
	Alternative method 2		
	$\frac{6x}{5} + \frac{9}{5}$	M1	oe two terms eg $1.2x + 1.8$
	$2x -$ their $\frac{6x}{5} =$ their $\frac{9}{5} + 1$ or $\frac{4x}{5} = \frac{14}{5}$	M1	oe eg $-1 -$ their $\frac{9}{5} =$ their $\frac{6x}{5} - 2x$ or $\frac{4x}{5} - \frac{14}{5} = 0$ collecting two terms in x and two constant terms correctly
	$\frac{14}{4}$ or $3\frac{2}{4}$ or $\frac{7}{2}$ or $3\frac{1}{2}$ or 3.5	A1ft	oe ft M1M0 or M0M1 with exactly one error

5 cont	Additional Guidance	
	Ignore simplification or conversion if correct answer seen	
	Correct answer from trial and improvement	M1M1A1
	Correct equation with terms collected or division with no or incorrect answer	M1M1A0
	Embedded 3.5 with no or incorrect answer	M1M1A0
	$10x - 5 = 6x + 9$ $10x - 6x = 9 - 5$ $x = 1$ (exactly one error in line 2)	M1 M0 A1ft
	$7x - 5 = 6x + 9$ $7x - 6x = 9 + 5$ $x = 14$ (exactly one error in line 1)	M0 M1 A1ft
	$10x - 5 = 6x + 9$ $10x + 6x = 9 - 5$ $x = \frac{4}{16}$ (two errors in line 2)	M1 M0 A0ft
	$10x - 1 = 6x + 9$ $10x - 6x = 9 + 1$ $x = 3$ (exactly one error in line 1 but answer does not fit)	M0 M1 A0ft
	$7x - 6 = 6x + 9$ $7x - 6x = 9 + 6$ $x = 15$ (two errors in line 1)	M0 M1 A0ft
	$10x + 4 = 6x + 9$ $10x - 6x = 9 + 4$ $x = 3.25$ (neither M mark scored)	M0 M0 A0ft
	$10x - 5 = 30x + 45$	M1M0A0ft
	Any ft answer must be rounded or truncated to 1 dp or better	
	The last two marks can be implied without the collection of terms seen eg $10x - 1 = 6x + 9$ and $x = 2.5$	M0M1A1ft
	Collecting terms before the bracket has been expanded	M0M0A0ft

Q4. (2024)

Q	Answer	Mark	Comments
20	$x^2 - 9x + 3x - 27$ or $x^2 - 6x - 27$	M1	oe implied by eg $\frac{1}{2}x^2 - \frac{9}{2}x + \frac{3}{2}x - \frac{27}{2}$ may be seen in a grid
	their $(x^2 - 9x + 3x - 27) = 12 - 2x^2$	M1dep	oe equation with brackets expanded eg their $\left(\frac{1}{2}x^2 - \frac{9}{2}x + \frac{3}{2}x - \frac{27}{2}\right) = 6 - x^2$
	$3x^2 - 6x - 39 (= 0)$ or $3x^2 - 6x = 39$	M1dep	oe $ax^2 + bx + c (= 0)$ or $px^2 + qx = r$ eg $x^2 - 2x - 13 (= 0)$ or $\frac{3}{2}x^2 - 3x - \frac{39}{2} (= 0)$ implied by eg $\frac{2 \pm \sqrt{56}}{2}$
	$d = k$ $e = 14k^2$ $f = k$ where k is a non-zero constant	A1	eg $d = 1$ $e = 14$ $f = 1$ or $d = 2$ $e = 56$ $f = 2$ or $d = 6$ $e = 504$ $f = 6$
	Additional Guidance		
	Take the values on the answer lines as the final answer eg $\frac{2 \pm \sqrt{56}}{2}$ in working with $d = 2$ $e = \sqrt{56}$ $f = 2$ on answer lines		M3A0
	$1 \pm \sqrt{14}$ in working with $d = 1$ $e = 14$ $f =$ (blank)		M3A0
	For terms seen in a grid accept eg $3x$ for $+3x$		
	For up to M2 accept algebraic fractions but do not allow 3rd M1 unless recovered eg $\frac{x^2 - 9x + 3x - 27}{x + 3} = \frac{12 - 2x^2}{x + 3}$		M1M1