Question	Working	Answer	Mark	Notes
	Mark scheme 1 (see next page for alternative mark scheme)			
21	$(8x + 2) – (2x + 23)$ $(= 6x – 21)$ **or** $(2x + 23) – (8x + 2)$ $(= −6x + 21)$ **or** $(20x – 52) – (8x + 2)$ $(= 12x – 54)$ **or** $(8x + 2) – (20x – 52)$ $(= −12x + 54)$			M1 for a correct expression for the common difference in terms of x brackets must be present or removed correctly
	$(8x + 2) – (2x + 23) = (20x – 52) – (8x + 2)$ oe **or** $(2x + 23) – (8x + 2) = (8x + 2) – (20x – 52)$ oe			M1 for a correct equation
	$x = 5.5$			A1
	Eg $2 × 5.5 + 23$ $(=34)$ **and** $8 × 5.5 + 2$ $(=46)$ **OR** $8 × 5.5 + 2$ $(=46)$ **and** $20 × 5.5 − 52$ $(=58)$	shown	4	A1 for 12 from correct working

Question	Working	Answer	Mark	Notes
21	**Alternative method – starts by assuming $d = 12$** E.g. $(2x + 23) + 12 = (8x + 2)$ **or** $(8x + 2) + 12 = (20x – 52)$ **or** $(2x + 23) − 12 = (8x + 2)$ **or** $(8x + 2) − 12 = (20x – 52)$ **or** $(2x + 23) + (8x + 2) + (20x – 52) = \frac{3}{2}\left(2(2x + 23) + 2 \times 12\right)$ $x = 5.5$ **or** $x = 1.5$ from $(2x + 23) − 12 = (8x + 2)$ **or** $x = 3.5$ from $(8x + 2) − 12 = (20x – 52)$ $2 \times 5.5 + 23$ (=34) **and** $8 \times 5.5 + 2$ (=46) **and** $20 \times 5.5 − 52$ (=58) **OR** $2x + 23) + 12 = (8x + 2)$ **and** $(8x + 2) + 12 = (20x – 52)$ **and** gets $x = 5.5$ both times	shown	4	M2 for a correct equation If not M2 then award M1 for a correct expression for the common difference in terms of x brackets must be present or removed correctly e.g $(8x + 2) – (2x + 23)$ $(= 6x – 21)$ **or** $(20x – 52) – (8x + 2)$ $(= 12x – 54)$ A1 A1 for explicitly showing **both** common differences are 12 **OR** solves both $(2x + 23) + 12 = (8x + 2)$ **and** $(8x + 2) + 12 = (20x – 52)$ **and** gets $x = 5.5$ both times