

Topic Test 1 Mark Scheme

Equations - Higher

Q	Answer	Mark	Comments
1	Alternative method 1		
	$25 + \frac{9 \times 56}{2}$ or 277	M1	
	277 and No	A1	
	Alternative method 2		
	$(275 - 25) \times 2 \div 9$ or 55	M1	
	55 and No	A1	
2	$(-2)^3$ and $\sqrt{12 \times -2 + 40}$	M1	Correct substitution in both sides of the equation
	$(2)^3$ and $\sqrt{12 \times 2 + 40}$	M1	Correct substitution in both sides of the equation
	$-2 \rightarrow -8 = 4$ No and $2 \rightarrow 8 = 8$ Yes	A1	SC2 correct substitution and decision for one value

Q	Answer	Mark	Comments
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3	Alternative method 1		
	$\frac{2x}{3} + 4 = x + 1$	M1	
	$3 = \frac{x}{3}$	M1	
	9	A1	
	Alternative method 2		
	$\frac{x}{3} + 2 = \frac{x}{2} + \frac{1}{2}$ and $\frac{x}{3} - \frac{x}{2} = 2 - \frac{1}{2}$	M1	
	$\frac{x}{6} = 1\frac{1}{2}$	M1	
9	A1		

4	$5x - 2$	B1	
	$3(x + 1) = 3x + 3$	B1	
	their $(5x - 2) =$ their $(3x + 3)$ or $2x = 5$	M1	oe
	$\frac{5}{2}$ or $2\frac{1}{2}$ or 2.5	A1ft	ft incorrect bracket expansion

Q	Answer	Mark	Comments
5	$7(2x + 3) = 14x + 21$ or $3(x - 1) = 3x - 3$	M1	
	their $(14x + 21) - \text{their } (3x - 3) = 84.5$ or $11x + 24 = 84.5$	M1dep	oe
	$\frac{11}{2}$ or $5\frac{1}{2}$ or 5.5	A1	
	$2 \times (x - 1 + 3)$	M1	
	15	A1ft	ft $2 \times (\text{their } 5.5 + 2)$
6	$3w - 5 = 2w + 4$ or $\frac{3w}{2} - \frac{5}{2} = w + 2$	B1	
	$3w - 2w = 4 + 5$ or $\frac{3w}{2} - w = 2 + \frac{5}{2}$ or $\frac{w}{2} = 4.5$	M1	ft their four terms
	9	A1ft	ft B0M1