

Topic Test 1 Mark Scheme

Further equations and graphs - Higher

Q	Answer	Mark	Comments
1(a)	5x + 5x + 4x + 3x + 2x + x = 4 × 180 or 720	M1	
	20 <i>x</i> = 720	M1dep	
	36	A1	
1(b)	$5x = 5 \times 36 = 180$, so two angles are straight lines. The shape is actually a quadrilateral with angles, 144, 108, 72 and 36	B1	oe
2(a)	$2\frac{1}{2}$	B1	
2(b)	$4\frac{1}{2}$ and $1\frac{1}{2}$	B1	either order
2(c)	3 4	B1	
2(d)	$1\frac{1}{2}$	B1	
3	$2x^2 + 3x - 4 = 2x + 2$	M1	
	$2x^2 + x - 6 = 0$	M1dep	
	(2x+3)(x-2) = 0	A1	
	$-1\frac{1}{2}$ and 2	A1ft	ft their factorisation if product of coefficients is 2 and product of constant terms is ±6

Q	Answer	Mark	Comments		
		1			
4(a)	В	B1			
4(b)	С	B1			
		1			
5	$\frac{-7\pm\sqrt{(7)^2-4\times3\times-8}}{2\times3}$	M1			
	$\frac{-7\pm\sqrt{145}}{6}$	A1			
	0.84 and -3.17	A1			
6	A = (-4, 0) $B = (-1, -9)$ $C = (0, -8)$ $D = (2, 0)$	В3	B2 3 correct B1 2 correct		