Question		n	Answer	Marks	AO	Guidance	
10	(a)		gradient AC = $\frac{4 - (-1)}{1 - (-4)} = 1$ A on the line so the equation of the line is y - 4 = 1(x - 1)	M1	2.1	Gradient calculation must be seen o.e. using C (-4, -1)	Also allow using $y = x + c$ and evaluating $c$
			so the equation is $y = x + 3$	A1	2.1	AG Must be clearly shown	
			Alternative method				1
			When $x=1$ $y=1+3=4$ so A lies on the line				
			When $x = -4$ $y = -4 + 3 = -1$ so C lies on the	M1		checking both points lie on the line	
			line				
			So the equation of the line AC is $y = x + 3$	A1		clear conclusion must be seen	
				[2]			
10	<b>(b</b> )		M is (4, 2)	B1	1.1b		
			y = x + 3 crosses the x-axis at D (-3, 0)	<b>B</b> 1	1.1b		
			length DM is $\sqrt{49+4} = \sqrt{53}$	M1	<b>3.1</b> a	Attempt to find at least two of the	Also allow for the $AC^2$ etc
			length MA is $\sqrt{9+4} = \sqrt{13}$			sides of triangle DMA	found if clear
			length DA is $\sqrt{16+16} = \sqrt{32}$	A1	1.1b	At least 2 correct lengths soi	
						FT their coordinates	
			using the cosine rule				Allow MIA0A0 for cosine
			$\cos DMA = \frac{13+53-32}{55-52}$	MI	1.1a	Allow sign errors Any form	rule used leading to one of
			2×√13×√53	Al	1.1b	FT their lengths. Must be correct	the other two angles of the
						expression for cos DMA	triangle. (101.3° or 29.1°)
							and not used to find 49.6°
			$D\hat{M}A = 49.6^{\circ}$	A1	1.1b	Accept 49.7°	
				[7]			