4   Two points A and B have coordinates $(-1, 1)$ and $(3, 4)$ respectively. The line BC is perpendicular to AB and intersects the x-axis at C.

   (i) Find the equation of BC and the x-coordinate of C. [4]

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   (ii) Find the distance AC, giving your answer correct to 3 decimal places. [2]

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Question	Answer	Marks	Guidance
4(i)	Gradient, m, of $AB = 3/4$	**B1**	
	Equation of BC is $y - 4 = \dfrac{-4}{3}(x - 3)$	**M1A1**	Line through (3, 4) with gradient $\dfrac{-1}{m}$ (M1). (Expect $y = \dfrac{-4}{3}x + 8$)
	$x = 6$	**A1**	Ignore any y coordinate given.
		4	

Question	Answer	Marks	Guidance
4(ii)	$(AC)^2 = 7^2 + 1^2 \;\rightarrow\; AC = 7.071$	**M1A1**	M mark for $\sqrt{(their6 +/-1) \;+1}$.
		2	