

Question			Answer	Marks	AO	Guidance	
<b>3</b>			<b>DR</b>				
			$(x^2 - 5)(x^2 + 1) = 0$	<b>M1</b>	<b>3.1a</b>	Attempt to solve disguised quadratic, which has first been rearranged to a useable form <b>DR</b> so method must be seen	Substitution or direct factorisation Could use quadratic formula M0 for $(x - 5)(x + 1)$ , or equiv with formula, unless clear substitution of $x = x^2$
			$x^2 = 5$	<b>A1</b>	<b>1.1</b>	Obtain at least $x^2 = 5$	Could be implied by their explicit substitution eg $u = 5$ , where $u = x^2$ May still have $x^2 = -1$ as well, but A0 if any other value for $x^2$
			$x^2 \geq 0$ , so $x^2 + 1 = 0$ has no real solutions	<b>B1</b>	<b>2.3</b>	Explicitly reject $x^2 + 1 = 0$ , with reasoning	eg negative numbers cannot be square rooted or $x^2 \neq -1$ as $x$ is real $x^2 \neq -1$ is insufficient without further reasoning Must be sensible reason, not just ‘math error’ or ‘not possible’ Could say that there are only imaginary (or not real) roots (condone ‘complex’ roots) Could say $x^2$ cannot be negative, but B0 for $x^2$ must be positive (or equiv as an inequality)
			$x = \pm\sqrt{5}$	<b>A1</b>	<b>1.1</b>	Obtain $x = \pm\sqrt{5}$	A0 if any extra roots. Both roots required, and must be exact
				<b>[4]</b>			