Q	Marking Instructions	AO	Marks	Typical Solution
1	Circles correct answer	AO1.1b	B1	$\begin{bmatrix} -4 \\ 0 \end{bmatrix}$
	Total		**1**	
2	Circles correct answer	AO2.5	B1	$A \Leftarrow B$
	Total		**1**	
3(a)(i)	States correct value of p	AO1.2	B1	$p = \frac{1}{2}$
(a)(ii)	States correct value of q	AO1.2	B1	$q = -2$
(b)	Uses valid method to find x , PI	AO1.1a	M1	$\frac{1}{2} + x = -2$
	Obtains correct x , ACF	AO1.1b	A1	$x = -2.5$
	Total		**4**	
4	Multiplies numerator and denominator by the conjugate surd of the denominator	AO1.1a	M1	$\frac{(5\sqrt{2}+2)(3\sqrt{2}-4)}{(3\sqrt{2}+4)(3\sqrt{2}-4)}$
	Obtains **either** numerator **or** denominator correctly, in expanded or simplified form	AO1.1b	A1	$= \frac{30-20\sqrt{2}+6\sqrt{2}-8}{2}$ $= \frac{22-14\sqrt{2}}{2}$
	Constructs rigorous mathematical argument to show the required result Only award if they have a completely correct solution, which is clear, easy to follow and contains no slips NMS = 0	AO2.1	R1	$= 11-7\sqrt{2}$
	Total		**3**	