

Question	Answer	Marks	Guidance
(a)	Multiply numerator and denominator by $1 - 2i$, or equivalent	M1	At least one multiplication completed.
	Obtain correct numerator $(1 - 2a)\sqrt{2} - (2 + a)\sqrt{2}i$	A1	OE
	Obtain final answer $\frac{1 - 2a}{5}\sqrt{2} - \frac{2 + a}{5}\sqrt{2}i$	A1	OE
	Alternative method for question (a)		
	Multiply $x + iy$ by $1 + 2i$ and compare real and imaginary parts	M1	
	Obtain $x - 2y = \sqrt{2}$ and $2x + y = a\sqrt{2}$	A1	
	Obtain final answer $\frac{1 - 2a}{5}\sqrt{2} - \frac{2 + a}{5}\sqrt{2}i$	A1	OE
		3	
(b)	Obtain $r = 2$	B1 FT	
	Obtain $\theta = -\frac{3}{4}\pi$	B1	
		2	
(c)	Use correct method to find r or θ	M1	
	State answer $\sqrt{2}e^{-\frac{3}{8}\pi i}$	A1 FT	
	State answer $\sqrt{2}e^{\frac{5}{8}\pi i}$	A1 FT	
		3	