

Question		Answer	Marks	AOs	Guidance
11	(a)	<p>P is <math>(\sqrt{2}, \frac{\sqrt{2}}{2})</math></p> $\frac{dy}{dx} = \frac{dy}{d\theta} \div \frac{dx}{d\theta}$ $= \frac{\cos\theta}{-2\sin\theta}$ <p>When <math>\theta = \frac{\pi}{4}</math>, <math>\frac{dy}{dx} = -\frac{1}{2}</math></p> <p>Equation of tangent is <math>(y - \frac{\sqrt{2}}{2}) = -\frac{1}{2}(x - \sqrt{2})</math></p> $\Rightarrow y = -\frac{1}{2}x + \frac{1}{2}\sqrt{2} + \frac{1}{2}\sqrt{2}$ $\Rightarrow x + 2y = 2\sqrt{2}$	<p><b>B1</b></p> <p><b>M1</b></p> <p><b>A1</b></p> <p><b>A1</b></p> <p><b>B1</b></p> <p><b>E1</b></p> <p><b>[6]</b></p>	<p>1.1</p> <p>3.1a</p> <p>1.1</p> <p>1.1</p> <p>2.1</p> <p>1.1</p>	<p>oe</p> <p>AG</p>
11	(b)	<p>When <math>x = 0</math>, <math>y = \sqrt{2}</math> so A is <math>(0, \sqrt{2})</math></p> <p>When <math>y = 0</math>, <math>x = 2\sqrt{2}</math> so B is <math>(2\sqrt{2}, 0)</math></p> <p>Area of triangle = <math>\frac{1}{2}\sqrt{2} \times 2\sqrt{2} = 2</math> units<sup>2</sup></p>	<p><b>B1</b></p> <p><b>B1</b></p> <p><b>B1</b></p> <p><b>[3]</b></p>	<p>1.1</p> <p>1.1</p> <p>1.1</p>	