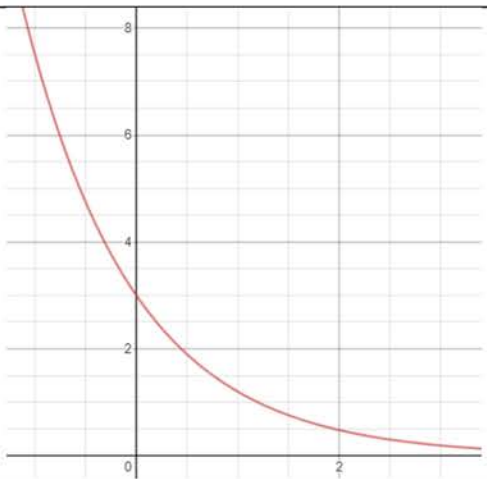


Question		Answer	Marks	AO	Guidance
3	(a)		<p><b>M1</b></p> <p><b>B1</b></p> <p><b>A1</b></p>	<p><b>1.1</b></p> <p><b>1.1</b></p> <p><b>1.1</b></p>	<p>decreasing concave up curve in 1<sup>st</sup> and 2<sup>nd</sup> quadrants which does not cut the <math>x</math>-axis; mark intent</p> <p>decreasing curve with intercept <math>(0,3)</math>; may be in one quadrant only</p> <p>smooth curve from <math>(-0.5, a)</math> through <math>(2.5, b)</math>, where <math>4.5 \leq a \leq 5</math> and <math>0 &lt; b &lt; 0.5</math></p>
			[3]		
3	(b)	$\log(3 \times 0.4^x) = \log(0.8)$ <b>oe</b> $x \log 0.4 = \log 0.8 - \log 3$ <b>oe</b> $1.44$ <b>cao</b>	<p><b>M1</b></p> <p><b>M1</b></p> <p><b>A1</b></p>	<p><b>3.1a</b></p> <p><b>1.1</b></p> <p><b>1.1</b></p>	<p>taking logarithms in any base</p> <p>3<sup>rd</sup> law of logs used correctly</p> <p>if <b>M0M0</b> allow <b>SC1</b> for 1.44 unsupported</p>
		<p><i>Alternatively</i></p> $0.4^x = \frac{0.8}{3}$ $x = \log_{0.4} \left( \frac{0.8}{3} \right)$ $x = 1.44$ <b>cao</b>	<p><b>M1</b></p> <p><b>M1</b></p> <p><b>A1</b></p>		<p>may see <math>x \log 0.4 = \log \left( \frac{0.8}{3} \right)</math> <b>oe</b></p>
			[3]		