Math 172 | Quiz 11 | Name: _____

7 June 2016 | Show Appropriate Work | Point Values in $\boxed{\text{boxes}}$.

1. $\boxed{2}$ Find $dy/dx$ for the the following parametric curve at the point specified.

$$x(\theta) = \sin^3\theta, y(\theta) = \cos\theta, \quad \theta = \pi/6$$

2. Consider the parametric curve given by

$$x(t) = t^2 - 9, y(t) = t^2 - 8t.$$

   (a) $\boxed{2}$ Find the points ($x$ and $y$ coordinates) where the tangent line to the curve has slope 2.

   (b) $\boxed{1}$ Find an equation for the tanget line when $t = 0$.

3. $\boxed{1}$ Sketch the polar point $(-1, \pi/3)$ and then find an alternative representation for the point with a positive radial coordinate.

4. Convert to an equation in rectangular coordinates.

   (a) $\boxed{2}$ $r = 2$

   (b) $\boxed{2}$ $r = 2\sin\theta$