1. A curve *C* is defined by the parametric equations.

 (a) Find  in terms of *t*.

 (b) Find an equation of the tangent line to *C* at the point where *t* = 2.

 2. A curve *C* is defined by the parametric equations.

 (a) Find  in terms of *t*.

 (b) Find an equation of the tangent line to *C* at the point where *t* =.

3. Determine the area of the region below the parametric curve by the following set of parametric equations:

$$x=t^{2}-4$$

$$y=t$$

$$0\leq t\leq 4$$

4. Determine the area of the region below the parametric curve by the following set of parametric equations:

$$x=4\cos((t))$$

$$y=4\sin((t))$$

$$0\leq t\leq π$$

5. Find the arc length of the curve $x=t^{2}, y=t^{3}, 1\leq t\leq 4$.

6. Find the arc length of the curve $x=2cos^{2}t, y=2\cos(t)\sin(t), 0\leq t\leq π$.