

Name:

Section (circle one):      10-11      11-12

1. Draw the graph corresponding to the parametric equations  $x = t^2 - 1$  and  $y = 5 - 3t$ , for  $-1 \leq t \leq 1$ . Indicate the direction of travel for a particle that moves along this path. Also, label the coordinates for the starting and ending points of the curve (that is, where  $t = -1$  and where  $t = 1$ ) as well as the points where the curve crosses either of the axes.

2. Consider the parametric equations  $x = \cos t$  and  $y = t^3$ , where  $t$  can be any real number. Find the equation of the tangent line to this curve at the point  $\left(0, \frac{\pi^3}{8}\right)$ .