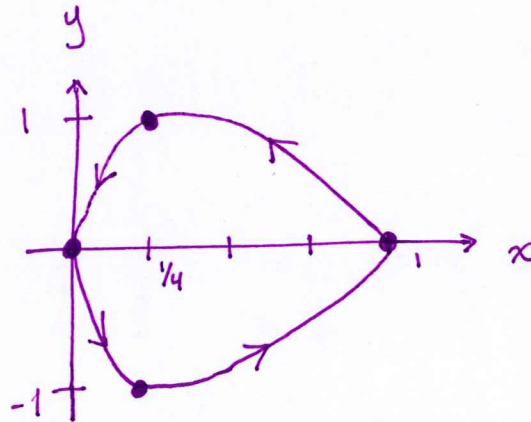


Name: \_\_\_\_\_

1. Sketch the curve on the  $x$ - $y$  plane by using the parametric equations to plot at least 5 points. Indicate with an arrow the direction in which the curve is traced as  $t$  increases. Label your axes.

$$x = (t - 1)^2, \quad y = \sin(\pi t), \quad 0 \leq t \leq 2$$

$t$	$x$	$y$
0	1	0
$\frac{1}{2}$	$\frac{1}{4}$	1
1	0	0
$\frac{3}{2}$	$\frac{1}{4}$	-1
2	1	0



2. Eliminate the parameter to find a Cartesian equation of the curve.

$$x = t^4 - 1, \quad y = \ln(t^3)$$

$$y = \ln(t^3)$$

$$x = t^4 - 1$$

$$y = 3 \ln t$$

$$x = (e^{y/3})^4 - 1$$

$$\frac{y}{3} = \ln t$$

$$t = e^{\frac{y}{3}}$$