

# PARAMETRIC CURVES

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Name: Solutions

1. Sketch the curve parametrized by

$$x = t^2 - 3 \quad y = 2t - 1 \quad -3 \leq t \leq 4$$

$$\frac{dy}{dx} = \frac{2}{2t} = \frac{1}{t}$$

$$\frac{d^2y}{dx^2} = \frac{-\frac{1}{t^2}}{2t} = -\frac{1}{2t^3}$$

$$t = -3 : (6, -7) \text{ (initial point)}$$

$$t = 0 : (-3, -1) \text{ (vertical tangent)}$$

$$t = 4 : (13, 7) \text{ (terminal point)}$$

