MATH 147 Review: Parametrization of Arcs and Lines

1. Parametrize the top-half of the circle centered at $(100, 1)$ with radius 50 with a clockwise orientation.

Solution:

$$\begin{cases} x(t) = 50\cos(-t+\pi) + 100 \\ y(t) = 50\sin(-t+\pi) + 1 \end{cases} \qquad t \in [0, \pi]$$

2. Parametrize the line segment starting at $(300, 2)$ and ending at $(100, 1)$.

Solution:

$$\begin{cases} x(t) = (1-t)(300) + t(100) \\ y(t) = (1-t)(2) + t(1) \end{cases} \qquad t \in [0, 1]$$