

Quiz #10

1. (2 points) Find a parametrization of the line segment starting at the point $(-2, 3)$ and ending at the point $(3, 1)$ using linear functions $x(t)$ and $y(t)$ with $0 \leq t \leq 1$.

2. (3 points) Consider the following pairs of polar coordinates (r, θ) . Do they describe the same point in the plane ? Write 'T' if they do and 'F' if they do not.

$$(16, \frac{32\pi}{3}) , (-16, -\frac{\pi}{3})$$

$$(2, \frac{\pi}{3}) , (-2, -\frac{\pi}{3})$$

$$(16, \frac{32\pi}{3}) , (-16, \frac{\pi}{3})$$

$$(2, 5\pi) , (-2, 5\pi)$$

$$(1, \frac{21\pi}{4}) , (-1, \frac{\pi}{4})$$

$$(0, \pi) , (0, \frac{\pi}{2})$$

3. (5 points) Consider the equation $r = 4 \sin \theta$ in polar coordinates. What is the equivalent equation in cartesian coordinates ? What kind of curve is given by this equation ? Describe it in detail or sketch it.