

1. Given the following parametric equations/intervals of a particle in the xy -plane, find the related Cartesian equation and graph it. Then, indicate the portion of the graph traced by the particle and the direction of motion.

$$x = -\sqrt{t}, \quad y = t, \quad t \geq 0$$

2. Given the following parametric equations/intervals of a particle in the xy -plane, find the related Cartesian equation and graph it. Then, indicate the portion of the graph traced by the particle and the direction of motion.

$$x = 4 \sin t, \quad y = 5 \cos t, \quad 0 \leq t \leq 2\pi$$

3. Find a parametrization for the line segment with endpoints $(-1, 3)$ and $(3, -2)$.

Q: A bus driver was heading down a street in Walnut. He went right past a stop sign without stopping, went the wrong way on a one-way street, and then went on the left side of the road past a cop car. The cop did nothing, because he didn't break any traffic laws. Why not?