

**Math 124, Winter 2012, Quiz 1**

**January 10, 2012**

**Name** \_\_\_\_\_

**TA/Section** \_\_\_\_\_

Jane is running around a circular lake of radius 2 km at a speed of 12 km/hr. At  $t = 0$ , she starts running at the easternmost point of the lake; 5 km north and 3 km east from her house. Give parametric equations for Jane with a coordinate system with the positive  $x$ -axis pointing East, the positive  $y$ - axis pointing North and Jane's house at the origin.

Sketch a picture of the lake. Where is the center? Her speed is given as km/hr. whereas the angular speed  $\omega$  should be in radians per hour.