

Math 0230

Quiz 4

Fall 2014

Your name: _____

Time: 20 minutes

Your TA's name: _____

No calculators, no notes, no books are permitted.

SHOW ALL WORK (no work = no credit). Write neatly. Simplify your answers.

1. [5 points] Find all four points (x, y) on the curve $x = 2 \cos t$, $y = \sin 2t$ where the tangent is horizontal.

2. [5 points] Find the area of the region enclosed by one loop of the curve $r = 4 \cos 3\theta$.

bonus problem [5 points extra] Eliminate the parameter to find a Cartesian equation $y = f(x)$ of the curve $x = 9^{10t}$, $y = 27^{4t}$. Simplify your answer.