

ING FAHD UNIVERSITY OF PETROLEUM AND MINERALS
DEPARTMENT OF MATHEMATICS & STATISTICS

MATH 201-06

Quiz # 1

February 27, 2008

NAME:

ID#:

SHOW ALL YOUR WORK

1. **(3points)** Find points on the curve $x = 10 - t^2, y = t^3 - 12$ where the tangent is

horizontal or vertical.

2. **(3points)** Find $\frac{dy}{dx}$ and $\frac{d^2y}{dx^2}$ for the parametric curve $x = 2 \sin t, y = 3 \cos t$.

3. **(4points)** Eliminate t and sketch the resulting curve $x = \sec t, y = \tan t, -\frac{\pi}{2} < t < \frac{\pi}{2}$.
Indicate with an arrow the direction in which the curve is traced as t increases.