Name: ID #: Section #:

Q1) [**2.5pts**] Sketch the parametric curve $x = t^2 - 2,\ y = 5 - 2t,\ -2 \leq t \leq 3$.

Q2) [**2.5pts**] If $x = t + \ln t$ and $y = t - \ln t$, find $\dfrac{d^2y}{dx^2}$.

Q3) Consider the curve C given by the polar equation $r = 2 - \cos(2\theta)$.

(a) [**3pts**] Sketch the graph of the curve C.

(b) [**2pts**] Find the slope of the tangent line to the curve C at $\theta = \pi/4$.

Name: ID #: Section #:

Q1) [**2.5pts**] Sketch the parametric curve $x = 1 + \sqrt{t},\ y = t^2 - 4t,\ 0 \le t \le 5$.

Q2) [**2.5pts**] If $x = t + \ln t$ and $y = t - \ln t$, find $\dfrac{d^2y}{dx^2}$.

Q3) Consider the curve C given by the polar equation $r = 2 + \cos(2\theta)$.

(a) [**3pts**] Sketch the graph of the curve C.

(b) [**2pts**] Find the slope of the tangent line to the curve C at $\theta = \pi/4$.