Math 116 Practice Exam 3 Answers

1)

    a) $\left(\dfrac{5}{2}, \dfrac{5\sqrt{3}}{2} \right)$

    b) $\left(16, -\dfrac{\pi}{3} \right)$ is one possible answer

2) $-4 \left(x - \dfrac{1}{2} \right) = y - 2$

3)

    a) $y = \ln(3(x-1))$ is one possible answer.

    b) $\dfrac{x^2}{9} + 1 = \dfrac{y^2}{484}$

4)

    a) $\displaystyle\int_{\ln(2)}^{\ln(5)} \sqrt{(3e^{3t} - 3e^{-3t})^2 + 36} \; dt$

    b) $125 - \dfrac{1}{125} - 8 + \dfrac{1}{8}$

5) $\dfrac{\pi}{12}$

6) $\dfrac{\pi}{4} + \dfrac{17}{2} \arccos(2/3) - 3\sqrt{5}$