Math 2450.H01, Homework # 3
Due: Thursday, September 17

1. Given the curve $y = 4 - x^2$ in the plane, compute

   (a) The radius of curvature at $x = 1$.

   (b) The equation for the "osculating circle" at $x = 1$.

2. Sketch and describe the four level curves, $f(x, y) = c$, for the hyperbolic paraboloid $z = f(x, y) = x^2 - y^2$ when $z = f(x, y) = \pm 1, \pm 2$.

3. Match the curves section 11., p. 827, # 35-40 to the surfaces.

   35 _____

   36 _____

   37 _____

   38 _____

   39 _____

   40 _____