Math 1710. Homework Problems VI (January 16, 2012)

Find the area of the region bounded by the curves:

1. $y = x^2 - 4x, \; y = 6 - x^2$;

2. $x^2 + y^2 = 1, \; y^2 = x$;

3. $x = 4y - y^2, \; y = x - 3, \; y = 0, \; y = 1$;

4. $y = 2x - x^2, \; y = -\dfrac{x^3 + x}{2}$;

5. $y = x^2 - 1, \; y = \dfrac{8}{3}(x + 1), \; y = x + 1$;

6. $y = \tan x, \; y = -2x, \; y = 1, \; y = \sqrt{3}$.