Warm-Up Problems and Lecture Problems
February 17, 2003

1. Find the points of intersection for the following sets of graphs.

   (a) $y = 12 - x^2$ and $y = x^2$

   (b) $y = x^2$ and $y = 2x + 8$

   (c) $x = y^2$ and $x = y + 6$

   (d) $x = y^2 - 2y - 2$ and $x = 4 + y - 2y^2$

2. Using your calculator, estimate the points of intersection of the following sets of graphs:

   (a) $y = x^3$ and $y = 32 - x^4$

   (b) $y = \frac{7x}{(x^2+1)^{3/2}}$ and $y = \frac{x^2}{3}$

Lecture Problems

3. Find the area between the curves (hint: see your work in problem 1)
   (a) $y = 12 - x^2$ and $y = x^2$
   (b) $y = x^2$ and $y = 2x + 8$
   (c) $x = y^2$ and $x = y + 6$
   (d) $x = y^2 - 2y - 2$ and $x = 4 + y - 2y^2$
4. Find the area between the curves (hint: see your work in problem 2)
   (a) $y = x^3$ and $y = 32 - x^4$
   (b) $y = \frac{7x}{(x^2+1)^{3/2}}$ and $y = \frac{x^2}{3}$