Calculus I
Exam 1, Spring 2003

1. Find the equation of the line which goes through the point (3,-2) and is parallel to the line given by the equation $2x-3y=1$.

2. Find the derivatives of the following functions:

a) $f(x) = 3x^4 - 8x^2 + x$

b) $g(x) = (x+1)(\frac{1}{x}+1)$

c) $h(x) = \frac{x^2+1}{x+1}$

3. Find the derivatives of the following functions:
a) $f(x) = (\tan(2x)+1)^2$
b) $g(x) = (2x^2+1)^{-1}$

4. Find the equation of the line tangent to the curve $y = (x^2+1)^2$ at (2,25).

5. An object moves in a straight line so that its position at time t is given by $x(t) = t\cos t$. What is the velocity of the object when $t = 3\pi/4$?