

Name: _____

Math 112 Worksheet #3
January 26, 2007

1. Differentiate the following:

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

(b) $g(t) = \sqrt[3]{t} + \frac{3}{t^3}$

(c) $h(z) = 12e^{.5z} - \ln 9z$

(d) $2(p^2 + 3)^4$

(e) $3\sqrt{s^2 - 1} + \ln(s + 1)$

2. Find the equation of the line tangent to the graph of $f(t) = 4^t - 3$ at $t = 1$.

3. Suppose the cost and revenue functions for selling gizmos are $C(q) = 10000 + 5q^{1.3}$ and $R(q) = 1200\sqrt{q}$. Assuming you have sold 200 gizmos, should you sell the 201st gizmo? Assuming you have sold 400 gizmos, should you sell the 401st gizmo?