

Worksheet #2
Math 1100-005
02/23/06

Name: _____ Name: _____

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1. Find $\frac{dy}{dx}$ for $3xy^2 + x^2 + y^2 = 2$

2. Find the slope of the tangent line of $2\sqrt[3]{x} + 3\sqrt{y} = 10$ at $(8, 4)$.

3. For $f(x) = (x - 1)^2(x - 3)$,

(a) determine the intervals for which the function is increasing and decreasing

(b) determine the relative extrema

4. Find ALL extrema of $h(x) = x^4 - 2x^3$ on $[-1, 2]$.

5. For $g(x) = x^5 - 10x^2$, determine the intervals for which the function is concave up & down.