Calculus I **Fall 2014**

Inverse and implicit differentiation

Discussion session 11 - 30 September 2014

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1. Use implicit differentiation to find the derivative y' for the implicitly defined function

$$\frac{y}{x^3} + \frac{x}{y^3} = x^2 y^4.$$

2. Find the slopes of all possible tangent lines to the graph of the implicitly defined function

$$(x - y)^2 = x + y - 1$$

at $x = 1$.

3. Suppose that g is the inverse function of $f(x) = 4x^3 - 2x$. Compute $g(-2)$ and $g'(-2)$.