Homework

Read and reread sections 3.6 and 3.7 pages 138–154 several times. The test next week will cover both of these sections.

Do problems 1, 2, 3, 4, 7, 10 on pages 145–146.

Compute the derivatives of the following functions. If it is a function of more than one variable, then find all the partial derivatives.

$\sqrt{5 + t + 3t^2}$

$ts + \sqrt{2t + st^2}$

$\dfrac{y^3 - 1}{y}$

$y = \dfrac{x - \sqrt{x^2 - 1}}{2}$

$\sqrt[3]{\dfrac{2}{3 - 2x}}$

$\dfrac{3}{(2x^2 + 5x)^{\frac{3}{2}}}$

$\dfrac{1}{1 + x^2}$

$\sqrt{x^2 - a^2}$ (with a constant)

$\tan(xy^2z^3)$

$\dfrac{1}{r^2 + z^2}$

$\sec(u^2 + 3v)$

$5^{\sqrt{2 - x + 2y}}$

$\cos(4w)$

$(s - 3t)\cot(t)$

$\csc(5\theta)$

$\tan\left(\dfrac{y}{x}\right)$

$\sec\left(\dfrac{y}{x}\right)$

$\csc\left(\dfrac{y}{x}\right)$

$e^{\sin(2x - y)}$

$\dfrac{1}{1 - \cot\theta}$

$e^{\frac{-x^2}{2\sqrt{t}}}$

$\tan(1 + \cos(x + 3y))$

$\dfrac{a}{a + be^t}$ with a, b constants

$\sec^2(\theta) - \tan^2(\theta)$

$e^{x^2 - 1}$

$\sin^3(x + e^{x/4})$

$\dfrac{2}{x - 3}$