

Suggested Problems for Friday, September 7

Use the Chain Rule and other methods to compute the derivatives of the following functions:

1. If $y = (7x - 1)^{10}$, find $\frac{dy}{dx}$.
2. If $f(x) = \sqrt{x^2 - 5x + 1}$, find $f'(x)$.
3. If $y = \frac{1}{(2x^2 + 1)^{1/3}}$, find $\frac{dy}{dx}$.
4. If $g(x) = (x^3 + 1)^{3/2} \cdot e^{-x^2}$, find $g'(x)$.
5. If $y = \ln(x^2 + 1)$, find $\frac{dy}{dx}$.

For any of the above problems, practice finding the equation of the line tangent to the curve at the point $x = a$ for various values of a .

For additional practice with derivatives of logarithmic and exponential functions, look at problems 1–34 and 39–44 in Section 4.3.

For additional practice with the Chain Rule, look at problems 1–50 in Section 2.4.