Chain Rule

If $f(x) = u^n$ (where u is a function of x) then $f'(x) = n \bullet u^{n-1} \bullet \frac{du}{dx}$

Directions: Find the derivative of each.

1. $f(x) = (3x-1)^{10}$

2. $f(x) = (5x^2 - 3x + 1)^4$

3. $f(x) = 9\sqrt[3]{4-x^2}$

4. $f(x) = 5x^2 \bullet (3x-4)^3$

5. $f(x) = \left(3x^2 - 2\right)^2 \left(3x - 1\right)^3$

6. $y = \dfrac{2x+1}{\sqrt{x+1}}$