

Applied Calculus – Quiz 4

1. Differentiate each function (without simplifying your answers.)

(a) $g(x) = (x^4 - 3x + 1)^5(4x^2 + 3)^6$

(b) $h(x) = \sqrt[5]{\frac{(2x + 1)^3}{(3x + 2)^2}}$

(c) $F(x) = \frac{(4x + 1)^5}{(3x - 1)^6}$

(d) $G(x) = 6(4x - 1)^{2/3}(5x + 3)^{4/3}$

2. Suppose $y = u^{20}$ and $u = x^2 - x$. Find the following:

(a) $\frac{dy}{du} =$

(b) $\frac{du}{dx} =$

(c) $\frac{dy}{dx} =$