

Differentiate each function.

$$f(x) = x^2 - 10x + 100$$

$$g(x) = x^{100} + 50x + 1$$

$$V(r) = \frac{4}{3}\pi r^3$$

$$s(t) = t^8 + 6t^7 - 18t^2 + 2t$$

$$F(x) = (16x)^3$$

$$G(y) = (y^2 + 1)(2y - 7)$$

$$Y(t) = bt^{-9}$$

$$R(x) = \frac{\sqrt{10}}{x^7}$$

$$g(x) = x^2 + \frac{1}{x}$$

$$f(t) = \sqrt{t} - \frac{1}{\sqrt{t}}$$

$$h(x) = \frac{x+2}{x-1}$$

$$f(u) = \frac{1-u^2}{1+u^2}$$

$$G(s) = (s^2 + s + 1)(s^2 + 2)$$

$$H(t) = \sqrt[3]{t}(t+2)$$

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

$$y = \frac{\sqrt{x} - 1}{\sqrt{x} + 1}$$

$$y = \sqrt{5x}$$

$$y = x^{4/3} - x^{2/3}$$

$$y = \frac{1}{x^4 + x^2 + 1}$$

$$y = x^2 + x + x^{-1} + x^{-2}$$

$$y = ax^2 + bx + c$$

$$y = A + \frac{B}{x} + \frac{C}{x^2}$$

$$y = \frac{3t-7}{t^2+5t-4}$$

$$y = \frac{4t+5}{2-3t}$$

$$y = x + \sqrt[5]{x^2}$$

$$y = x^4 - \sqrt[4]{x}$$

$$u = x^{\sqrt{2}}$$

$$u = \sqrt[3]{t^2} + 2\sqrt{t^3}$$

$$v = x\sqrt{x} + \frac{1}{x^2\sqrt{x}}$$

$$v = \frac{6}{\sqrt[3]{t^5}}$$

$$y = \frac{x}{x + \frac{c}{x}}$$

$$y = \frac{ax+b}{cx+d}$$

$$y = \frac{x^5}{x^3 - 2}$$