

<p>The Constant Rule</p> <p>The derivative of a constant function is zero.</p> $\frac{d}{dx}[c] = 0$	<p>The Power Rule</p> <p>If n is a rational number, then the function $f(x) = x^n$ is differentiable and...</p> $\frac{d}{dx}[x^n] = n \cdot x^{n-1}$
<p>The Constant Multiple Rule</p> <p>If f is a differentiable function and c is a real number, then $c \cdot f$ is differentiable and...</p> $\frac{d}{dx}[c \cdot f(x)] = c \cdot f'(x)$	<p>The Sum and Difference Rules</p> <p>The sum (or difference) of two differentiable functions, f and g, is differentiable and...</p> $\frac{d}{dx}[f(x) \pm g(x)] = f'(x) \pm g'(x)$

Use an applicable rule to find each derivative.

1. $f(x) = x^5 - 2x^3 + 7x - 12$	2. $g(x) = 3x^2 + 2x + 1$	3. $s(t) = -16t^2 + 70t + 500$
4. $y = \frac{2}{x}$	5. $y = 2\sqrt{x}$	6. $y = \frac{4x^2}{5}$
7. $y = -\frac{3}{2}x$	8. $y = \frac{1}{2\sqrt[3]{x^2}}$	9. $f(x) = x^3 - 4x + 5$
10. $g(x) = -\frac{x^4}{2} + 3x^3 - 2x$	11. $h(x) = \sqrt[5]{x} - \sqrt[4]{x} - \frac{1}{x^{\frac{2}{3}}}$	12. $f(x) = -\frac{1}{2} + \frac{7}{5}x^2$
13. $f(x) = x^2 + 5 - 3x^{-2}$	14. $h(s) = s^{\frac{4}{5}} - s^{\frac{2}{3}}$	15. $F(T) = T^{\frac{2}{3}} - T^{\frac{1}{3}} + 4$
16. $y = 3x(6x - 5x^2)$	17. $f(x) = \frac{x^3 - 3x^2 + 4}{x^2}$	18. $h(x) = \frac{2x^2 - 3x + 1}{x}$