

State each derivative rule with words and symbols:

Power Rule:

Sum/Difference Rule:

Product Rule:

Quotient Rule:

Identify which rule you would use to take the derivative for each problem – then take the derivative.

1. $f(x) = \frac{3x+1}{x^2-4}$

5. $v(t) = \frac{-1}{x^2-4}$

2. $g(x) = \frac{5}{x^2} - x^3 + \pi^2$

6. $y = \frac{1}{(x^3-2x)(x^4-8x^2)}$

3. $s = (t^2-3t)(t^2+1-t)$

7. $m(x) = 8x(2x^2+3)$

4. $a(t) = 2t^4 - 4t + 5$