

## Derivatives – Product and Quotient Rules Using Rational Exponents

Find the derivative using the product or quotient rules. Find the answer which matches. Write the word next to the problem number in the box. You'll uncover the answer to ...

**Why did the teacher wear sunglasses?**



1)	2)	3)	4)	5)	6)
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1) $h(x) = \frac{5x^2 - 3}{x^2 - 6}$	2) $h(x) = (x^3 - 2x + 7)(3x^2 - 5)$	3) $h(x) = \frac{x^2 + 8}{x^3 - 2}$
4) $k(x) = \frac{6x}{2x^2 + 4}$	5) $f(x) = (4x + 3)(x^2 + 9)$	6) $r(t) = \frac{t^2 + 2}{3 - t^2}$

Class $h'(x) = \frac{-x^4 - 24x^2 - 4x}{(x^3 - 2)^2}$	A $K'(x) = \frac{2x + 24}{(2x^2 + 4)^2}$	So $f'(x) = 4(x^2 + 9) + 2x(4x + 3)$
Light $K'(x) = \frac{-12x^2 - 24x}{(2x^2 + 4x)^2}$	Student $r'(t) = \frac{10t + 1}{(3 - t^2)^2}$	The $h'(x) = 15x^4 - 33x^2 + 42x + 10$
Beach $h'(x) = 10x^4 - 31x^2 + 22x - 10$	Was $K'(x) = \frac{-12x^2 + 24}{(2x^2 + 4)^2}$	Drive $f'(x) = 6(x^2 + 9) + 2x^2(x - 3)$
Because $h'(x) = \frac{-54x}{(x^2 - 6)^2}$	Sun $h'(x) = \frac{x^4 - 24x^2 - 4}{(x^2 - 2)^2}$	Bright $r'(t) = \frac{10t}{(3 - t^2)^2}$