

Class Drill 7: Don't Forget the Easy Derivative Rules Part II

[1] Let $f(x) = \frac{7}{(x+5)}$

(A) Find $f'(x)$, using the Quotient Rule.

(B) Start over. Find $f'(x)$ again, but this time do not use the Quotient Rule. Instead, start by rewriting f as a constant times a term in parentheses raised to a power. Then use the Constant Multiple rule and the Chain Rule.

[2] Let $g(x) = -\frac{7}{(x+5)^2}$

(A) Find $g'(x)$, using the Quotient Rule.

(B) Start over. Find $g'(x)$ again, but this time do not use the Quotient Rule. Instead, start by rewriting g as a constant times a term in parentheses raised to a power. Then use the Constant Multiple Rule and the Chain Rule.

[3] Let $f(x) = \frac{7}{e^{(5x)}}$

(A) Find $f'(x)$, using the Quotient Rule to deal with the fraction. Simplify your answer.

(B) Start over. Find $f'(x)$ again, but this time do not use the Quotient Rule. Instead, start by rewriting f as a constant times an exponential function with a negative sign in the exponent. Then use the Constant Multiple rule and the Chain Rule. Simplify your answer.