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.