(A) Let \( f(x) = 12 \ln \left( \frac{12}{x} \right) \). Find \( f'(x) \). (Start by rewriting \( f \) using a rule of logarithms.)

(B) Let \( f(x) = 12 \ln(x^{13}) \). Find \( f'(x) \). (Start by rewriting \( f \) using a rule of logarithms.)

(C) Let \( f(x) = 12x \ln(13) \). Find \( f'(x) \).

(D) The goal is to find the equation of the line tangent to the graph of the function

\[
f(x) = 5 + \ln(x^3)
\]

at the point where \( x = e^2 \).

Remember that the approach is to build the general form of the equation for the tangent line:

\[
(y - f(a)) = f'(a) \cdot (x - a)
\]

**Get Parts**

Identify the number \( a \).

Find \( f(a) \).

Question (D) continues on the next page.
Find \( f'(x) \). Hint: Start by rewriting \( f \) using a rule of logarithms.

Find \( f'(a) \).

**Substitute Parts Into the General Tangent Line Equation**

**Convert the Equation to Slope Intercept Form**