

1. (2pts) Separate the following into a sum or difference of logarithms: $\ln\left(\frac{(x^2 - 4)^5 \sin(x)}{x^3 (\cos^2(x))}\right)$

2. (2pts) Combine the following into a single logarithm: $\frac{1}{5} \ln(x + 1) - \ln(2x - 5) + 3 \ln(\cos(x))$

3. (3pts) Find $\frac{d}{dx} \ln(6x + 5)$.

4. (3pts) Find $\int \frac{t}{5t^2 - 3} dt$.