1. $D_x\left[\ \ln\left|x^3\right| + \left(\ln|x|\right)^3 + x^3 \ln|x|\ \right] =$

2. $D_x\left[\ \ln\left|\sin(x)\cos(x)\right|\ \right] =$

3. $D_x\left[\ \dfrac{\ln(x)}{e^x}\ \right] =$

4. Find all x for which the tangent line to the graph of $f(x) = \ln|x| - \dfrac{x}{8}$ at $\left(x, f(x)\right)$ is horizontal.

1. $D_x\left[\ \ln|\sin(x)| + \sin\left(\ln|x|\right) + \sin(x)\ln|x|\ \right] =$

2. $D_x\left[\ \ln\left(x^2 + 3x - 4\right)\ \right] =$

3. $D_x\left[\ \dfrac{e^x}{\ln(x)}\ \right] =$

4. Consider the function $f(x) = 3 + \ln(x - 1)$. Find the equation of the tangent line to the graph of f at the point $\left(2, f(2)\right)$.