

Ch 5 Hwk d/dx and integration using ln

Date _____ Period _____

Differentiate each function with respect to x .

1) $y = \ln x^2$

2) $y = \ln 5x^2$

3) $y = \ln \ln x^3$

4) $y = \ln \sin x^4$

5) $y = \ln (2x^5 - 5)^4$

6) $y = \ln \left(\frac{2x^2}{x^5 + 2} \right)^2$

Evaluate each indefinite integral.

7) $\int -2x^{-1} dx$

8) $\int x^{-1} dx$

9) $\int \frac{8x}{x^2 + 3} dx$

10) $\int \frac{3 \cdot \csc^2 x}{\cot x} dx$

Evaluate each definite integral.

11) $\int_{-1}^1 -\frac{2}{2x+6} dx$

12) $\int_{-2}^1 2x dx$