

**SECTION 6.5: PROPERTIES OF LOGARITHMS**

Homework: \_\_\_\_\_

	Monomials	Logarithms
Product Property		
Quotient Property		
Power		

Expand each logarithm.

1.  $\log_5 2x$

2.  $\ln \frac{5}{x}$

3.  $\log_3 4^x$

Write each logarithmic expression as a single logarithm.

4.  $2\log_2 5 + \log_2 x$

5.  $x \ln 5 - \ln 8$

Use  $\log_2 5 \approx 2.322$  and  $\log_2 3 \approx 1.585$  to evaluate each logarithm.

6.  $\log_2 15$

7.  $\log_2 \frac{3}{5}$

8.  $\log_2 125$

Change of Base Formula:

$$\log_c a = \frac{\log a}{\log c} \quad \text{or} \quad \log_c a = \frac{\ln a}{\ln c}$$