

**6.5A Practice Worksheet**

In Exercises 1–6, expand the logarithmic expression.

1.  $\log_2 5x$

2.  $\log 7x^4$

3.  $\log_6 \frac{2x}{y}$

4.  $\log_3 12x^7$

5.  $\log_6 \frac{5x^2}{y^3}$

6.  $\log_8 6\sqrt{xy}$

In Exercises 7–12, condense the logarithmic expression into a single log.

7.  $\log_7 3 - \log_7 5$

8.  $\log 10 - \log 5$

9.  $3 \ln x + 9 \ln y$

10.  $\log_2 9 + \frac{1}{2} \log_2 y$

11.  $5 \log_9 x - \log_9 4$

12.  $2 \ln 4 + 5 \ln x + 3 \ln y$