

**6.5****Practice A**

In Exercises 4–6, expand the logarithmic expression.

4.  $\log_2 5x$

5.  $\log 7x^4$

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

In Exercises 8–11, condense the logarithmic expression.

8.  $\log_7 3 - \log_7 5$

9.  $\log 10 - \log 5$

10.  $3 \ln x + 9 \ln y$

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

In Exercises 12–14, use the change-of-base formula to evaluate the logarithm.

12.  $\log_5 3$

13.  $\log_2 11$

14.  $\log_6 10$

In Exercises 4–6, expand the logarithmic expression.

4.  $\log_3 12x^7$

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

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

In Exercises 8–11, condense the logarithmic expression.

8.  $5 \log_9 x - \log_9 4$

9.  $\log_8 5 + \frac{1}{4} \log_8 x$

10.  $2 \ln 4 + 5 \ln x + 3 \ln y$

11.  $\log_6 9 + 2 \log_6 \frac{1}{3} - 3 \log_6 x$

In Exercises 12–14, use the change-of-base formula to evaluate the logarithm.

12.  $\log_8 15$

13.  $\log_3 30$

14.  $\log_4 \frac{8}{17}$