

**Review Practice #5**  
**No Calculators**

Pre Calculus

Name \_\_\_\_\_

Date \_\_\_\_\_ Period \_\_\_\_\_

Simplify the following.

1.  $\log_2 64 =$

2.  $\log_3 81 =$

3.  $\log_5 \left( \frac{1}{25} \right) =$

4.  $x^5 \cdot x^{a+7} =$

5.  $\frac{(x^3)^2 \cdot x^{b-4}}{x^8} =$

6.  $\frac{y}{\sqrt[3]{y}} =$

7.  $\sqrt[4]{3} \cdot \sqrt[5]{3} =$

8.  $\sqrt{16x^4 + 4a^2x^4}$

9.  $\frac{\frac{d-c}{c} - \frac{d}{c}}{\frac{d}{c} - \frac{d}{c}} =$

10.  $\frac{\frac{1}{x} + \frac{1}{y}}{\frac{x-y}{y} - \frac{y}{x}} =$

11. If  $\log_9 x = 4$ , then  $\log_3 x =$

12. If  $\log w = \log x + \frac{1}{3} \log y$ , then  $w =$

13. If  $f(x) = x^2 + 2x - 3$ , then  $f(a-1) =$

14. If  $f(x) = x^2 - x + 4$ , then  $f(a+1) =$

15. In the figure to the right,  $x =$

