Algebra 2 CP Worksheet Section 8.4 Part 1 **Name** _____

SHOW ALL WORK AND ANSWERS ON SEPARATE PAPER.

Write each equation in logarithmic form.

1. $5^4 = 625$
2. $\left(\frac{1}{9}\right)^{-2} = 81$
3. $64^{\frac{1}{3}} = 4$

Write each equation in exponential form.

4. $\log_{10} 10{,}000 = 4$
5. $\log_2 \frac{1}{32} = -5$
6. $\log_{144} 12 = \frac{1}{2}$

Simplify and/or find the value of x.

7. $\log_{12} 144$
8. $\log_8 x = 2$
9. $\log_x \frac{1}{8} = -3$
10. $\log_{99} 99$
11. $\log_{20} x = 1$
12. $\frac{1}{3} = \log_{64} x$
13. $\log_{10} 10{,}000$
14. $-3 = \log_5 x$
15. $\log_{25} x = \frac{1}{2}$
16. $\log_{15} 1$
17. $\log_{11} x = -2$
18. $3 = \log_x 125$
19. $\log_4 256$
20. $\log_9 x = 2$
21. $\log_x \frac{1}{4} = 2$
22. $\log_7 7$
23. $6 = \log_x 64$
24. $\log_6 x = -3$