**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.**

1. $log\_{10}10,000=4$
2. $log\_{2}\frac{1}{32}=-5$
3. $log\_{144}12=\frac{1}{2}$

**Simplify and/or find the value of x.**

1. $log\_{12}144$
2. $log\_{8}x=2$
3. $log\_{x}\frac{1}{8}=-3$
4. $log\_{99}99$
5. $log\_{20}x=1$
6. $\frac{1}{3}=log\_{64}x$
7. $log\_{10}10,000$
8. $-3=log\_{5}x$
9. $log\_{25}x=\frac{1}{2}$
10. $log\_{15}1$
11. $log\_{11}x=-2$
12. $3=log\_{x}125$
13. $log\_{4}256$
14. $log\_{9}x=2$
15. $log\_{x}\frac{1}{4}=2$
16. $log\_{7}7$
17. $6=log\_{x}64$
18. $log\_{6}x=-3$