Math 3 Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1-5 Practice 3 **No Calculator unless problem is denoted with \***

Solve the below exponential equations.

6\*. $4^{2y+2}=40$ 7. $8^{4x+3}=\frac{1}{4}$

8\*. $5=2e^{1+x}$ 9. $\frac{1}{9^{2x-4}}=1$

10. $9^{1-3x}=27^{2x-1}$ 11. $log\_{2}\left(4-5x\right)=2$

12. $2=log\_{4}(2x)+log\_{4}(x+2)$ **CHALLENGE:** $\frac{4^{2x}}{2^{x-3}}=1$

Solve the following word problems. Use the equation , where:

* is the initial amount
* *r* is the rate of growth (positive) or decay (negative) *as a decimal* (NOT a percentage)
* *t* is the unit time in the given problem

14\*.



15\*.

**Domain and Range of Logarithmic Functions**

16\*.





17\*.