**Exponential Funtions**

Name:

Unit 8 Day 1 Homework

**Given the graph of each function, find the *y*-intercept and state the domain and range.**

 **1. *y* =** $2^{x}$**2. *y* =** $\left(\frac{1}{3}\right)^{x}$

 

 y-intercept: y-intercept:

 domain: domain:

 range: range:

 **3. *y* = 2(**$2^{x}$**) 4. *y* = -3**$\left(\frac{1}{3}\right)^{x}$

 

 y-intercept: y-intercept:

 domain: domain:

 range: range:

Describe the transformations that occurred between the following functions & the parent function.

5. $y=-\left(7\right)^{x}$ 6. $ y=-7\left(\frac{1}{7}\right)^{x}$

Evaluate each expression. SHOW YOUR WORK!!!

7. $25^{\frac{1}{2}}$ 8. $1000^{\frac{2}{3}}$

9. $121^{\frac{3}{2}}$ 10. $\frac{4}{9}^{\frac{-1}{2}}$

11. $16^{\frac{-5}{2}}$ 12. $-216^{\frac{-1}{3}}$

13. $\left(\frac{1}{125}\right)^{\frac{-1}{3}}$ 14. $49^{\frac{-1}{2}}$

15. $32^{\frac{3}{5}}$ 16. $\left(\frac{1}{4}\right)^{\frac{-1}{2}}$