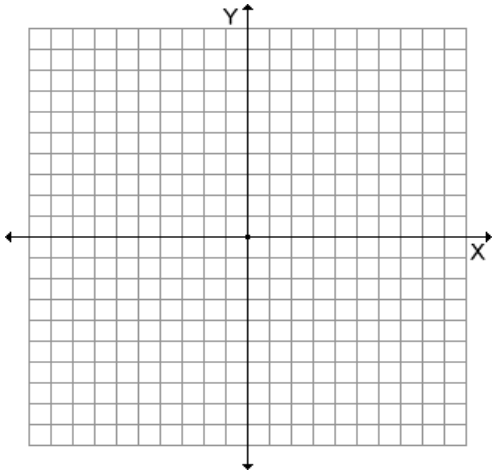
Unit 6 Review

Name_____Hr.___

SHOW ALL WORK!!!

Graph each function and state the domain and range.

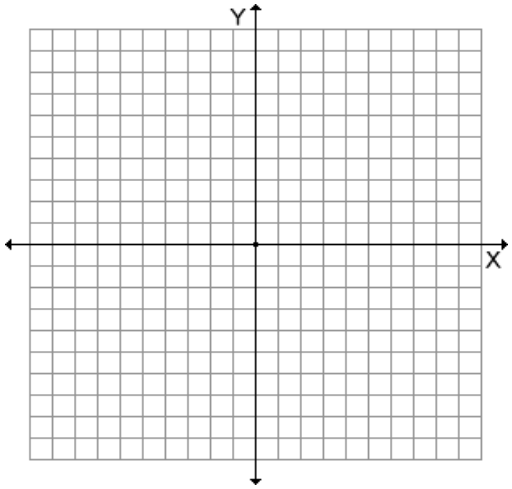
1. $y = 2(3)^x$



D: _____

R: _____

2. $y = 6\left(\frac{1}{3}\right)^x$



D: _____

R: _____

For Questions 3 and 4, determine whether each function represents exponential growth or decay.

3. $y = 5(0.7)^x$

4. $y = \frac{1}{3}(4)^x$

For Questions 5 and 6, write an exponential function whose graph passes through the given points.

5. (0, -2) and (3, -54)

6. (0, 7) and (1, 1.4)

For Questions 7 and 8, write each equation in logarithmic form. (Rock & Roll!)

7. $7^3 = 343$

8. $5^{-2} = \frac{1}{25}$

For Questions 9 and 10, write each equation in exponential form. (Rock & Roll!)

9. $\log_4 64 = 3$

10. $\log_6 \frac{1}{36} = -2$

For Questions 11-14, evaluate each expression. (Set each equal to y and solve!)

11. $\log_{10} \frac{1}{10000}$

12. $\log_7 7^{-5}$

13. $\log_{81} 3$

14. $\log_{13} 169$

For Questions 15-26, solve each equation.

15. $9^x = \frac{1}{81}$

16. $2^{6x} = 4^{5x+2}$

17. $49^{3p+1} = 7^{2p-5}$

18. $\log_4 x = \frac{1}{2}$

19. $\log_3 x = 2$

20. $\log_{81} 729 = x$

21. $\log_8(3y-1) = \log_8(y+5)$

22. $\log_6 2c + \log_6 8 = \log_6 80$

23. $\log_2 4 - \log_2(x+3) = \log_2 8$

24. $3\log_7 4 = 2\log_7 k$

25. $\log_5 7 + \frac{1}{2}\log_5 4 = \log_5 x$

26. $2\log_2 x - \log_2(x+3) = 2$

For Questions 27 and 28, find the inverse of the function.

22. $f(x) = 3x - 4$

28. $g(x) = \frac{1}{3}x + 2$

29. Graph the function $x=\log_{2.3}(y)$.

x	y

29.