Algebra 2

Name _____

Lesson 4.3 Worksheet

Block ____ Date _____

Rewrite each equation in exponential form.

1) $\log_{11} 121 = 2$

2) $\log_{16} \frac{1}{256} = -2$

3) $\log_{64} 8 = \frac{1}{2}$

4) $\log_2 64 = 6$

5) $\log_{14} 196 = 2$

6) $\log_{12} \frac{1}{12} = -1$

Rewrite each equation in logarithmic form.

7) $15^2 = 225$

8) $\left(\frac{1}{8}\right)^0 = 1$

9) $12^2 = 144$

10) $5^1 = 5$

11) $18^2 = 324$

12) $14^{-1} = \frac{1}{14}$

Evaluate each expression.

13) $\log_4 16$

14) $\log_5 125$

15) $\log_2 \frac{1}{16}$

16) $\log_6 36$

17) $\log_4 64$

18) $\log_2 32$

Find the inverse of each function.

19) $y = \frac{10-x}{2}$

20) $y = \frac{-6-x}{2}$

21) $y = \frac{-5x+20}{8}$

22) $y = 2x - 2$

23) $y = \frac{-4x-20}{9}$

24) y = 2x - 10

Use the given x – values to graph each function. Then graph its inverse. Describe the domain and range of the function and its inverse.

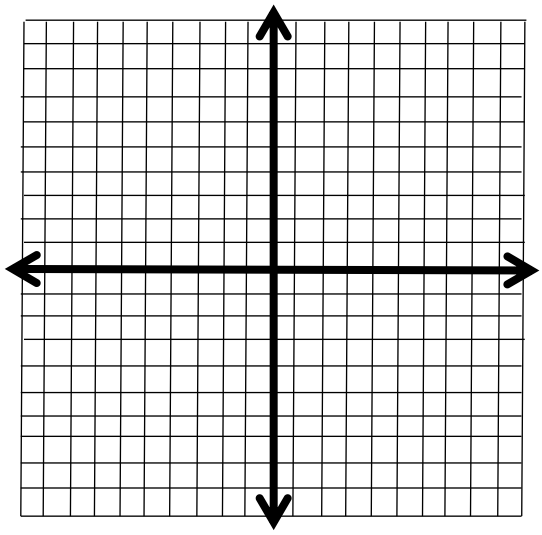
25) $y = \left(\frac{1}{3}\right)^x$

x	-2	-1	0	1	2
$f(x) = \left(\frac{1}{3}\right)^x$					

Domain: _____ Range: _____

x					
$f^{-1}(x)$					

Domain: _____ Range: _____



26) y = $\left(\frac{1}{2}\right)^x$

x	-3	-2	-1	0	1
$f(x) = \left(\frac{1}{2}\right)^x$					

Domain: _____ Range: _____

x					
$f^{-1}(x)$					

Domain: _____ Range: _____