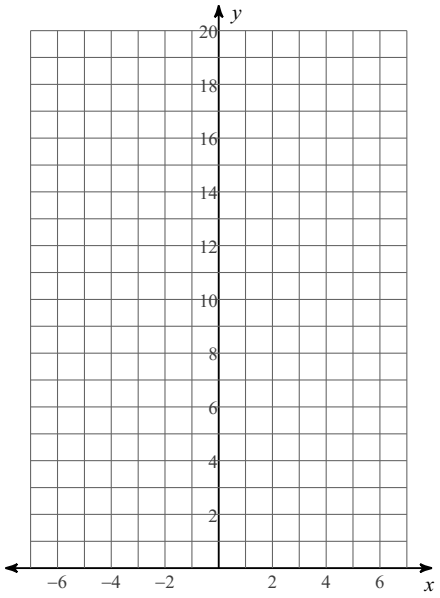
Algebra 2 Name_____

Quizzilla 2 (The Rebirth) Review

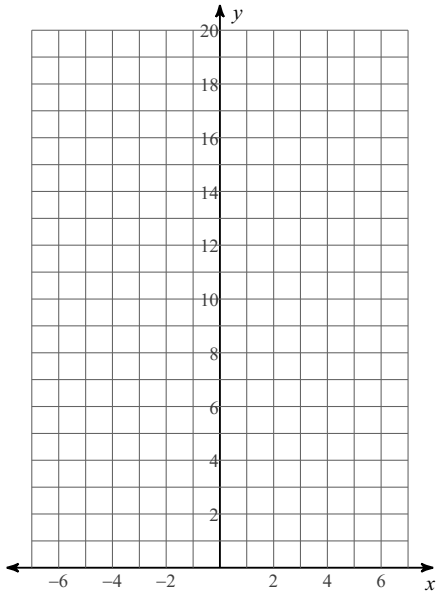
Date_____ Period____

Sketch the graph of each function.

1) $y = 2 \cdot 3^x$



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



Rewrite each equation in exponential form.

3) $\log_{289} 17 = \frac{1}{2}$

4) $\log_{12} 144 = 2$

Rewrite each equation in logarithmic form.

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

6) $64^{\frac{1}{2}} = 8$

Expand each logarithm.

7) $\log_4 \sqrt{12}$

Condense each expression to a single logarithm.

8) $6\log_4 5$

Expand each logarithm.

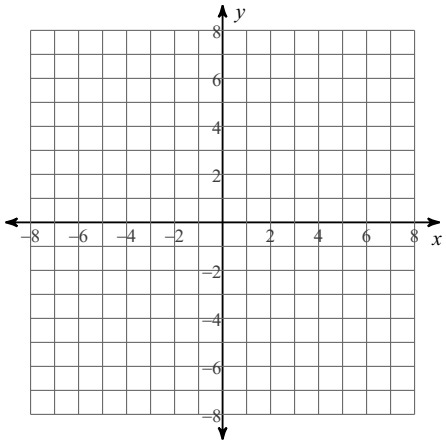
9) $\log_6 \left(8 \cdot 11^6\right)^5$

Condense each expression to a single logarithm.

10) $3\log_3 6 - 5\log_3 7$

Sketch the graph of each function.

11) $y = \log\left(x + 5\right) + 5$



Solve the following Exponential Growth and Decay problems.

12) Use $y = ae^{kt}$
A bank account is started with a $1000 deposit and the interest rate is 3% compounded continuously. How much money will be in the account after 6 months?

13) A population of 800 beetles is growing each month at a rate of 5%.
Use $y = a(1 + r)^t$
a) Write an equation that expresses the number of beetles at time x.

b) About how many beetles will there be in 8 months?