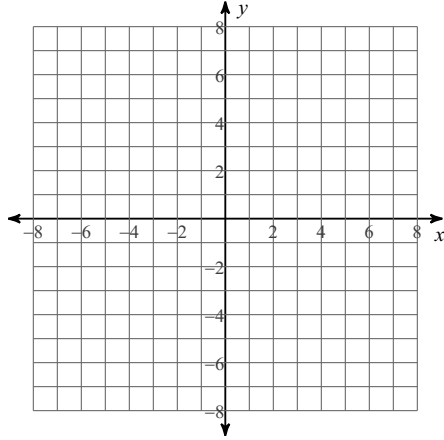


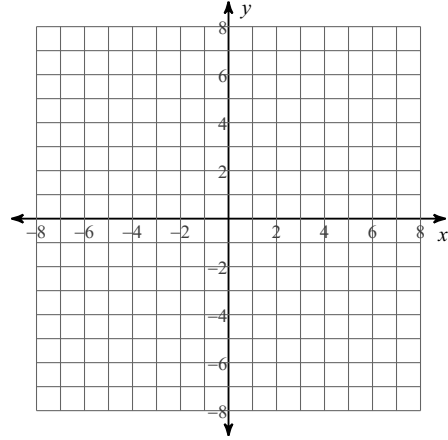
12.10 HW

Graph the Function and Describe any Transformations

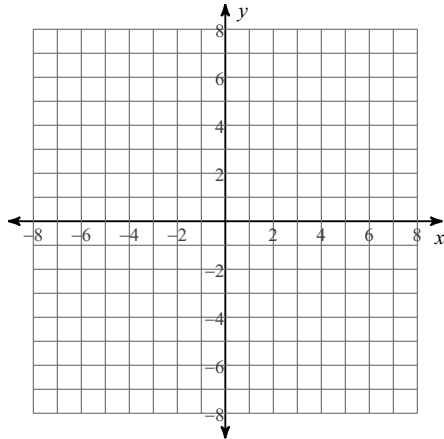
1) $f(x) = 2^x + 3$



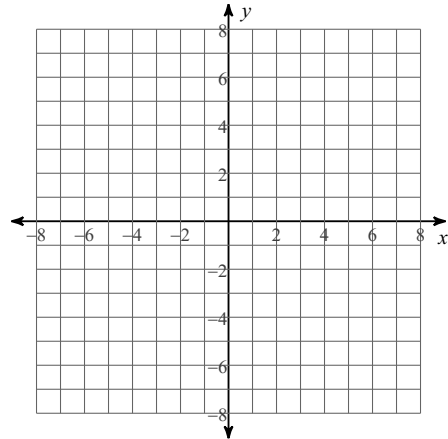
2) $f(x) = 3^{x-2} - 1$



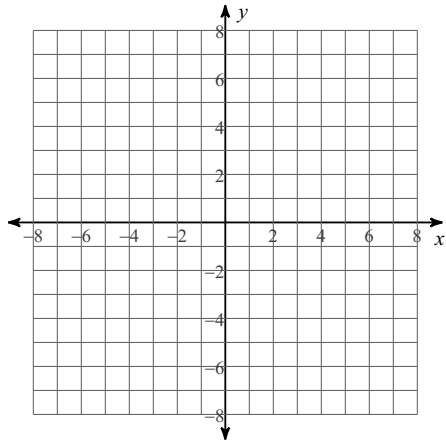
3) $f(x) = -2^{x+4}$



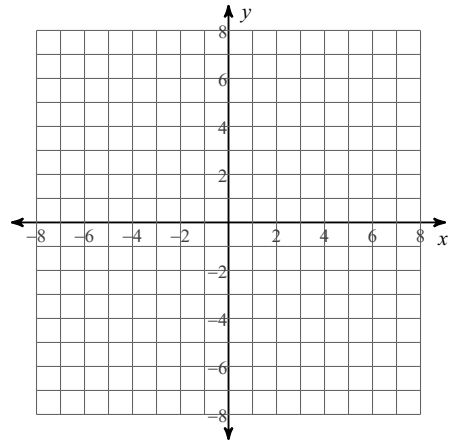
4) $f(x) = 4^{-x}$



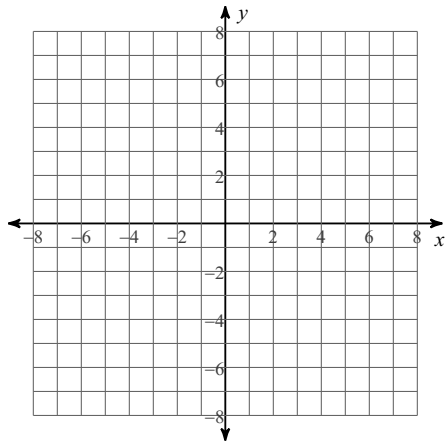
5) $f(x) = \log_2(x + 1)$



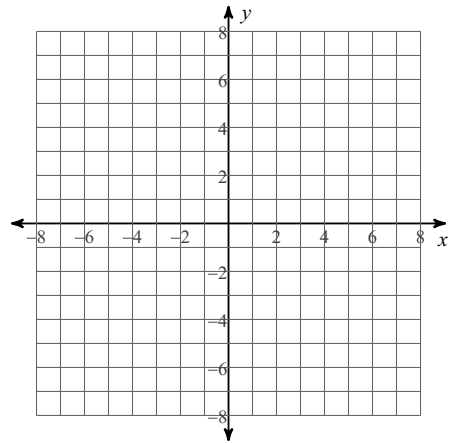
6) $f(x) = -\log_2 x - 2$



7) $f(x) = \log_2 -x$



8) $f(x) = \log_2(x + 3) + 2$



- 9) You deposit \$1500 in an account that pays 5% interest yearly. How much do you have after 6 years?
- 10) A mouse population is 25,000 and is decreasing in size at a rate of 20% each year. What is the mouse population after 3 years?
- 11) The population of a city grows at a rate of 5% each year. In 1990, the population was 400,000. What would be the current population?

In what year would the population be 1,000,000? (Use your graphing calculator table to make a prediction)

- 12) Sue deposits \$800 in an account that has an APR of 4.7%, which is compounded quarterly. How much interest will she have accrued after 12 years?
- 13) Dan deposits \$12,000 in an account that has an APR of 10%, which is compounded continuously. How much will be in his account after 7 years?

Rewrite each equation in exponential form.

$$14) \log_{17} \frac{1}{289} = -2$$

$$15) \log_{15} 225 = 2$$

$$16) \log_{144} 12 = \frac{1}{2}$$

Rewrite each equation in logarithmic form.

$$17) 13^{-1} = \frac{1}{13}$$

$$18) 2^6 = 64$$

$$19) 64^{\frac{1}{3}} = 4$$

Evaluate each expression.

$$20) \log_5 25$$

$$21) \log_4 \frac{1}{64}$$

$$22) \log_2 8$$

$$23) \log_{\frac{1}{5}} \frac{1}{5}$$

$$24) \log_{49} 7$$

$$25) \log_5 -25$$

$$26) \log_4 1$$

$$27) \log_1 36$$