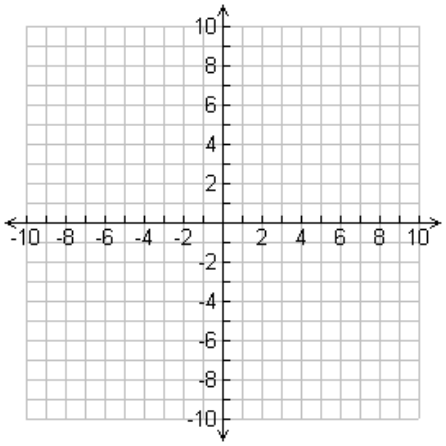
Exponential Growth and Decay **Name**_____
Day 1 **Hour**_____

Graph the following Exponential function.

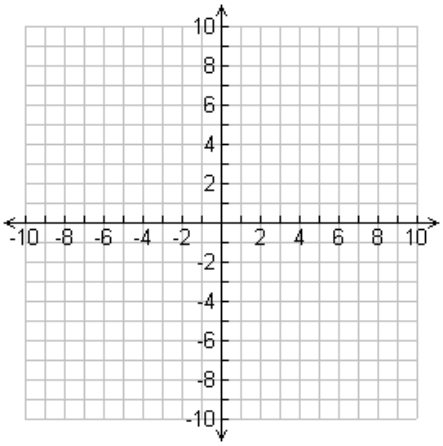
1. $f(x) = 3^x$

x-int:_____
y-int:_____
Domain:_____
Range:_____
Asymptote:_____



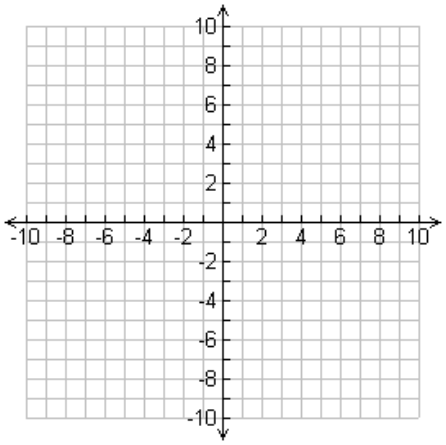
2. $f(x) = \left(\frac{1}{4}\right)^x$

x-int:_____
y-int:_____
Domain:_____
Range:_____
Asymptote:____



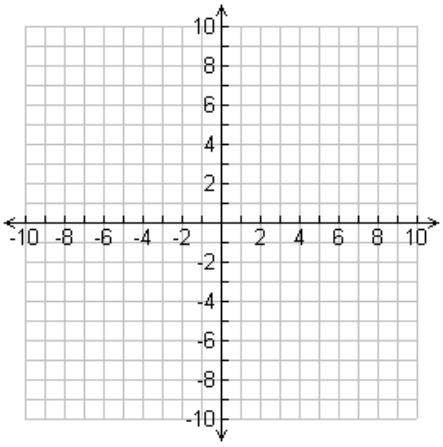
3. $f(x) = 2\left(\frac{2}{3}\right)^x$

x-int:_____
y-int:_____
Domain:_____
Range:_____
Asymptote:_____



4. $f(x) = (2)^x + 3$

x-int:_____
y-int:_____
Domain:_____
Range:_____
Asymptote:_____



Decide whether the following functions are exponential growth or exponential decay.

5. $f(x) = 100\left(\frac{5}{3}\right)^x$

6. $f(x) = 0.4(5)^x$

7. $f(x) = \left(\frac{2}{3}\right)^x$

8. $f(x) = 20\left(\frac{1}{3}\right)^x$

9. $f(x) = \frac{1}{2}(1.1)^x$

10. $f(x) = \left(\frac{7}{2}\right)^{-x}$

Solve the following systems of equations.

11. **y = x + 1 and 2x – 3y = 5**

12. **x + y = 10 and 2x – y = -1**