

Name: \_\_\_\_\_

Date: \_\_\_\_\_

# Homework : Graphing Exponential Functions

**#1 – 3. Write the equation for the asymptote of each function below. Would the function's graph show exponential growth, or exponential decay?**

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

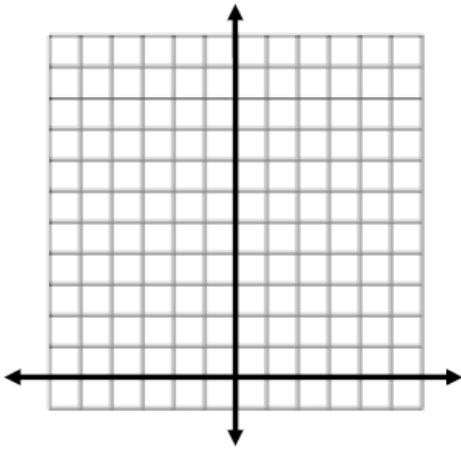
2.  $g(x) = 3\left(\frac{5}{8}\right)^{x-4}$

3.  $f(x) = 2(3)^{x-1} - 5$

**#4 – 9. Graph each exponential function using the table provided. Then find the equation for the asymptote, and the function's domain and range.**

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

| x  | y |
|----|---|
| -3 |   |
| -2 |   |
| -1 |   |
| 0  |   |
| 1  |   |
| 2  |   |
| 3  |   |

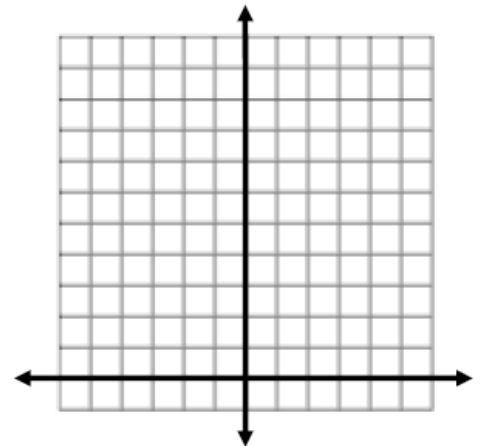


Asymptote: \_\_\_\_\_

Domain: \_\_\_\_\_ Range: \_\_\_\_\_

5.  $g(x) = 3(2^x)$

| x  | y |
|----|---|
| -3 |   |
| -2 |   |
| -1 |   |
| 0  |   |
| 1  |   |
| 2  |   |
| 3  |   |

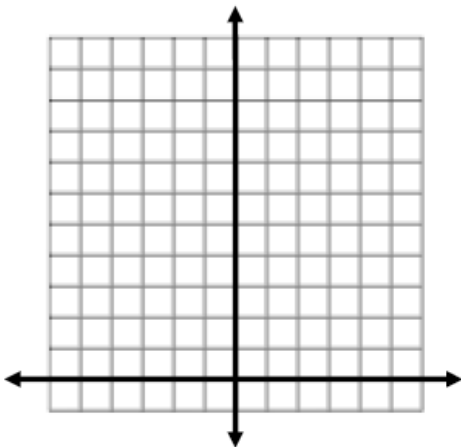


Asymptote: \_\_\_\_\_

Domain: \_\_\_\_\_ Range: \_\_\_\_\_

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

| x  | y |
|----|---|
| -3 |   |
| -2 |   |
| -1 |   |
| 0  |   |
| 1  |   |
| 2  |   |
| 3  |   |

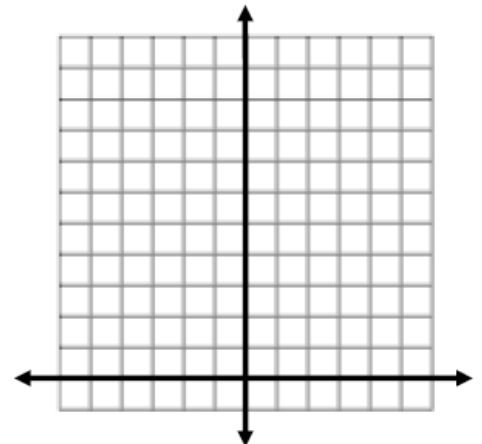


Asymptote: \_\_\_\_\_

Domain: \_\_\_\_\_ Range: \_\_\_\_\_

7.  $g(x) = 2^{(x-1)}$

| x  | y |
|----|---|
| -3 |   |
| -2 |   |
| -1 |   |
| 0  |   |
| 1  |   |
| 2  |   |
| 3  |   |



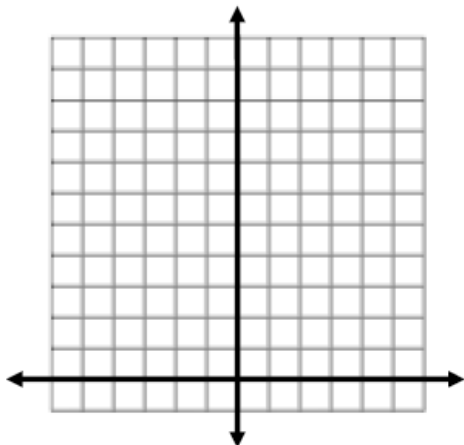
Asymptote: \_\_\_\_\_

Domain: \_\_\_\_\_ Range: \_\_\_\_\_

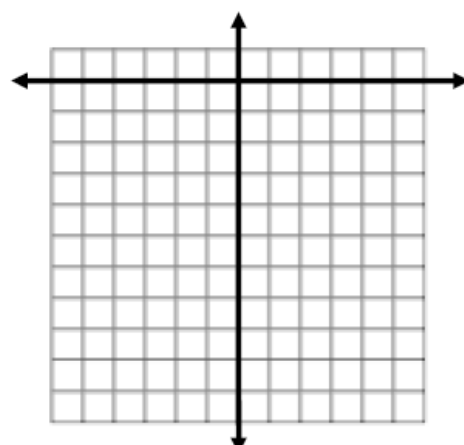
8.  $f(x) = 3(4)^x + 4$

9.  $g(x) = 2^{x-2} - 3$

| x  | y |
|----|---|
| -3 |   |
| -2 |   |
| -1 |   |
| 0  |   |
| 1  |   |
| 2  |   |
| 3  |   |



| x  | y |
|----|---|
| -3 |   |
| -2 |   |
| -1 |   |
| 0  |   |
| 1  |   |
| 2  |   |
| 3  |   |



Asymptote: \_\_\_\_\_

Asymptote: \_\_\_\_\_

Domain: \_\_\_\_\_

Range: \_\_\_\_\_

Domain: \_\_\_\_\_

Range: \_\_\_\_\_

**#10 – 15. Match the equation with the graph (the asymptotes are shown on the graph).**

\_\_\_\_\_ 10.  $f(x) = 4(0.5)^x - 2$

\_\_\_\_\_ 11.  $f(x) = 4(2)^x$

\_\_\_\_\_ 12.  $f(x) = (0.5)^{x+1}$

\_\_\_\_\_ 13.  $f(x) = (0.5)^x + 2$

\_\_\_\_\_ 14.  $f(x) = 2^{x-2} + 1$

\_\_\_\_\_ 15.  $f(x) = 2^x - 1$

