

Algebra 2  
Graphing Exponential Functions

Name: \_\_\_\_\_  
Date: \_\_\_\_\_ Period: \_\_\_\_\_

Graph each function. State all the important information.

1.)  $y = \frac{1}{2} \cdot 3^{x-2} + 4$

Growth/Decay: \_\_\_\_\_

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

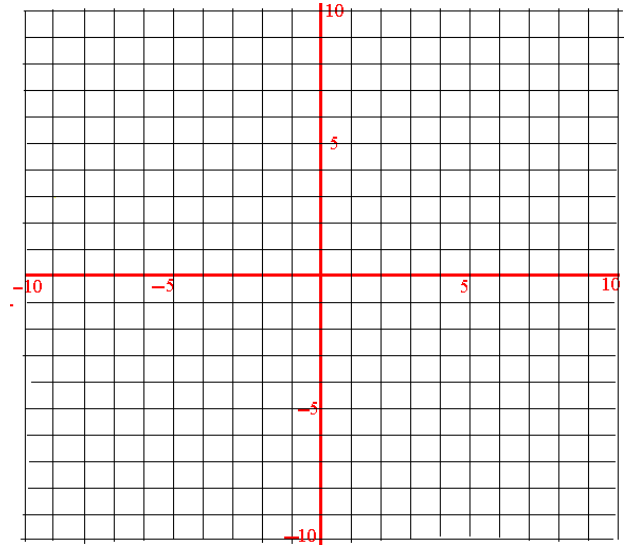
Domain: \_\_\_\_\_

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

End Behavior:

as  $x \rightarrow \infty, f(x) \rightarrow$  \_\_\_\_\_

as  $x \rightarrow -\infty, f(x) \rightarrow$  \_\_\_\_\_



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

Growth/Decay: \_\_\_\_\_

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

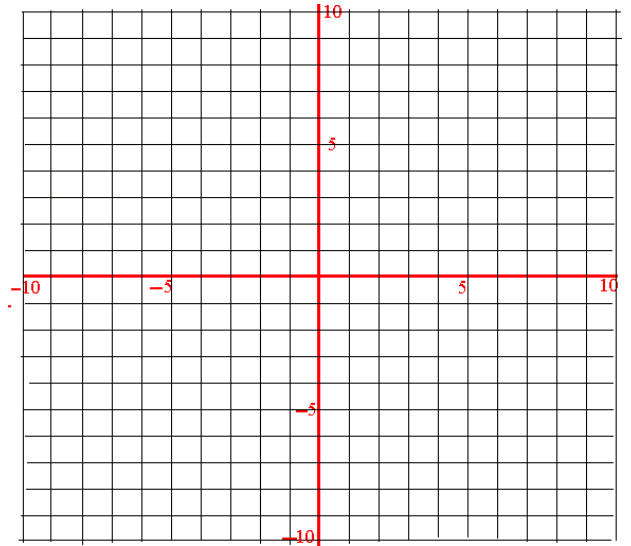
Domain: \_\_\_\_\_

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

End Behavior:

as  $x \rightarrow \infty, f(x) \rightarrow$  \_\_\_\_\_

as  $x \rightarrow -\infty, f(x) \rightarrow$  \_\_\_\_\_



Identify the exponential function as a growth or decay; state the domain, the range, the asymptote, the end behavior, and any shifts of the function.

3.)  $y = -4(3)^{x+2} + 5$

Growth/Decay: \_\_\_\_\_

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

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

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

End Behavior:

Shifts:

as  $x \rightarrow \infty, f(x) \rightarrow$  \_\_\_\_\_

as  $x \rightarrow -\infty, f(x) \rightarrow$  \_\_\_\_\_

Graph each function. State all the important information.

5.)  $y = (-2)(3)^{x+4} + 4$

Growth/Decay: \_\_\_\_\_

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

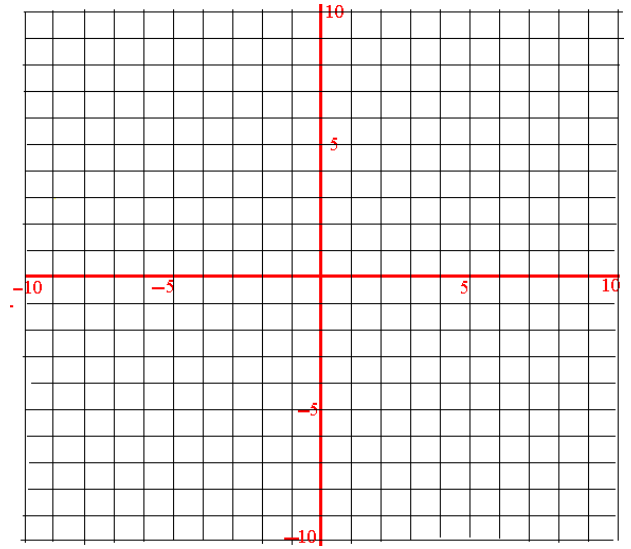
Domain: \_\_\_\_\_

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

End Behavior:

as  $x \rightarrow \infty, f(x) \rightarrow$  \_\_\_\_\_

as  $x \rightarrow -\infty, f(x) \rightarrow$  \_\_\_\_\_



6.)  $y = 4\left(\frac{3}{4}\right)^{x-3} + 1$

Growth/Decay: \_\_\_\_\_

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

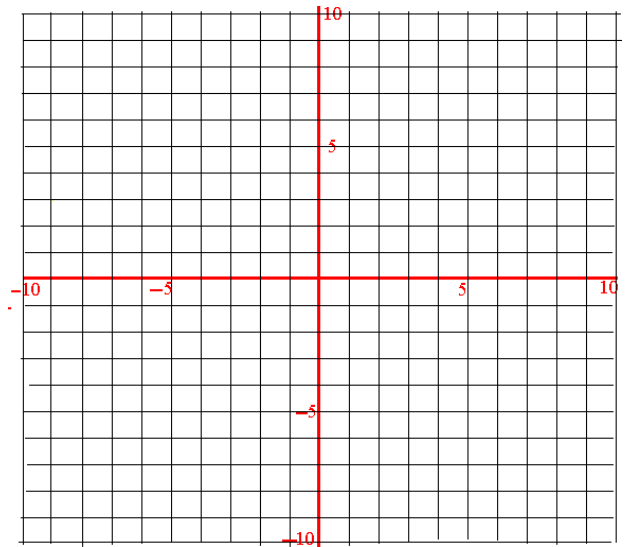
Domain: \_\_\_\_\_

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

End Behavior:

as  $x \rightarrow \infty, f(x) \rightarrow$  \_\_\_\_\_

as  $x \rightarrow -\infty, f(x) \rightarrow$  \_\_\_\_\_



7.)  $y = 2\left(\frac{3}{2}\right)^{x+1} - 3$

Growth/Decay: \_\_\_\_\_

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

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

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

End Behavior:

as  $x \rightarrow \infty, f(x) \rightarrow$  \_\_\_\_\_

as  $x \rightarrow -\infty, f(x) \rightarrow$  \_\_\_\_\_

