

# 9.1 Corrective Assignment – Exponential Growth

Algebra 2

Name: \_\_\_\_\_ ID: 2

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

1. Next to each function, write “yes” if it is an **exponential** function. If the answer is “no”, write an explanation why not.

a)  $y = -2\left(\frac{2}{7}\right)^x$

b)  $y = 4x^{-1}$

c)  $y = 3(2)^{-x}$

d)  $y = 2(-3)^x$

e)  $y = 2(-7)^x$

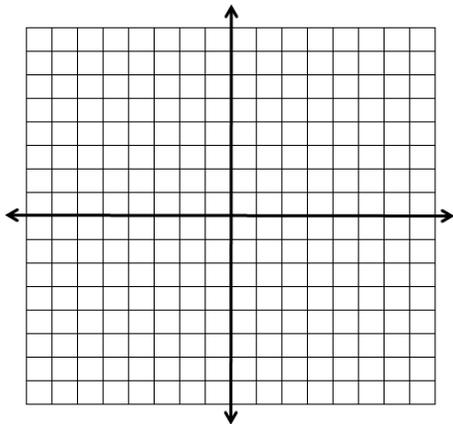
f)  $y = 2x^5$

g)  $y = -0.2(1.7)^x$

h)  $y = 0.5(0.4)^{-x}$

Sketch the graph of each exponential function by doing the following: Sketch the asymptote, label at least **three distinct coordinate points** on each graph, and write the domain and range of each function.

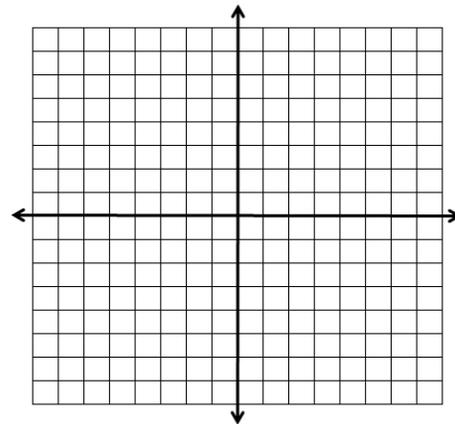
2.  $y = -3(2)^x$



Domain:

Range:

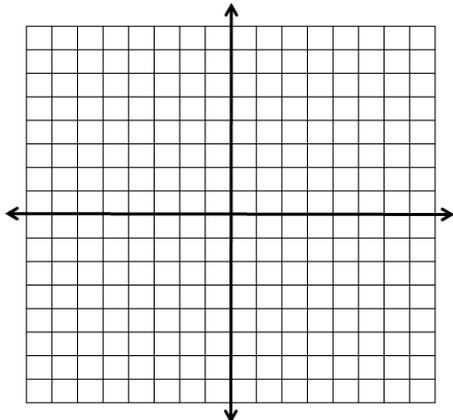
3.  $y = (4)^x$



Domain:

Range:

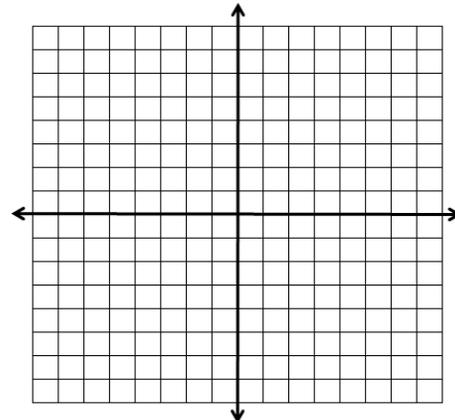
4.  $y = 5(2)^{x+1} - 3$



Domain:

Range:

5.  $y = -4(4)^{x-2} + 7$



Domain:

Range:

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1 a) Yes.

b) No. The variable must be in the exponent, not the base.

c) Yes.

d) No. The base  $b$ , must be a positive number other than one.

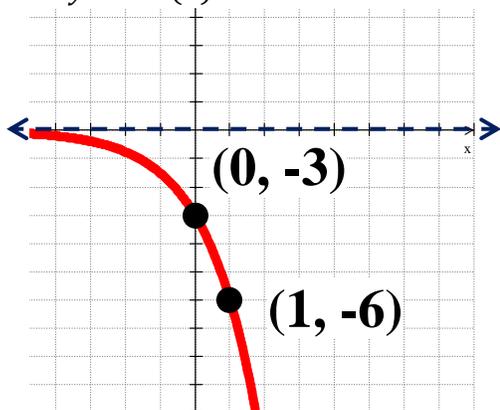
e) No. The base  $b$ , must be a positive number other than one.

f) No. The variable must be in the exponent, not the base.

g) Yes.

h) Yes.

2.  $y = -3(2)^x$



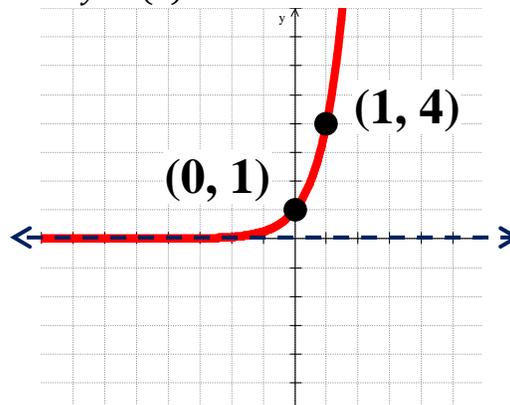
Domain:

All real numbers.

Range:

$y < -3$

3.  $y = (4)^x$



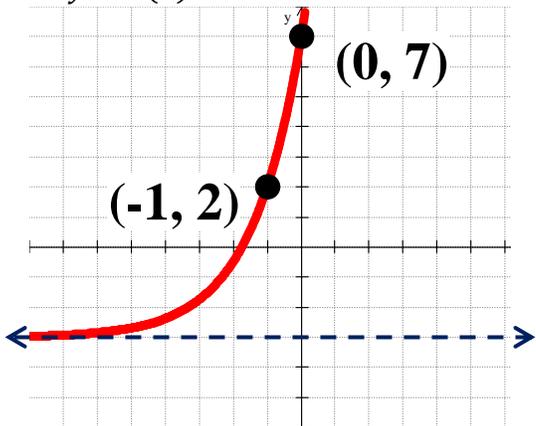
Domain:

All real numbers.

Range:

$y > 0$

4.  $y = 5(2)^{x+1} - 3$



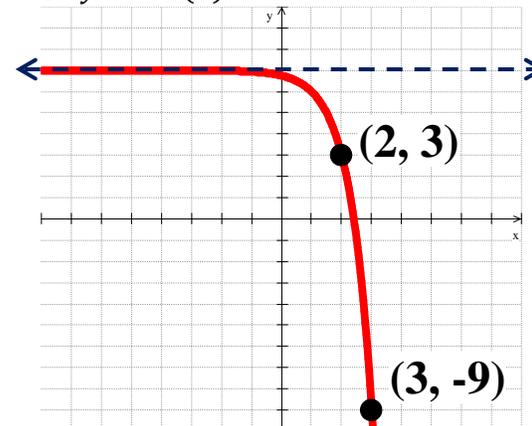
Domain:

All real numbers.

Range:

$y > -3$

5.  $y = -4(4)^{x-2} + 7$



Domain:

All real numbers.

Range:

$y < 7$