

Name Key
8A: Algebra 1

Date _____
Period _____

Homework

#1 & 2: Graph the following exponential equations using the given domain

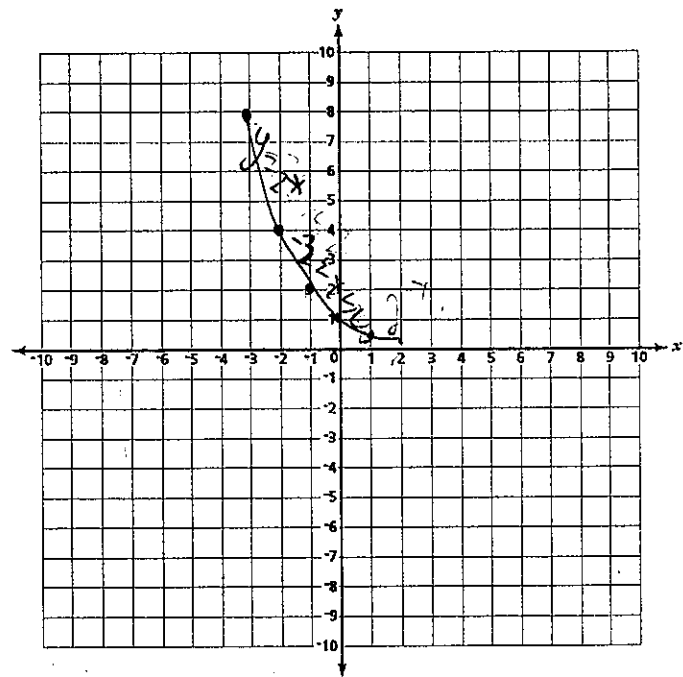
1) $y = 2^{-x}$ $-3 \leq x \leq 2$

Reflection
over the
y-axis

From growth
to decay!

X	Y
-3	8
-2	4
-1	2
0	1
1	.5
2	.25

AND
arrows
b/c of
constraints

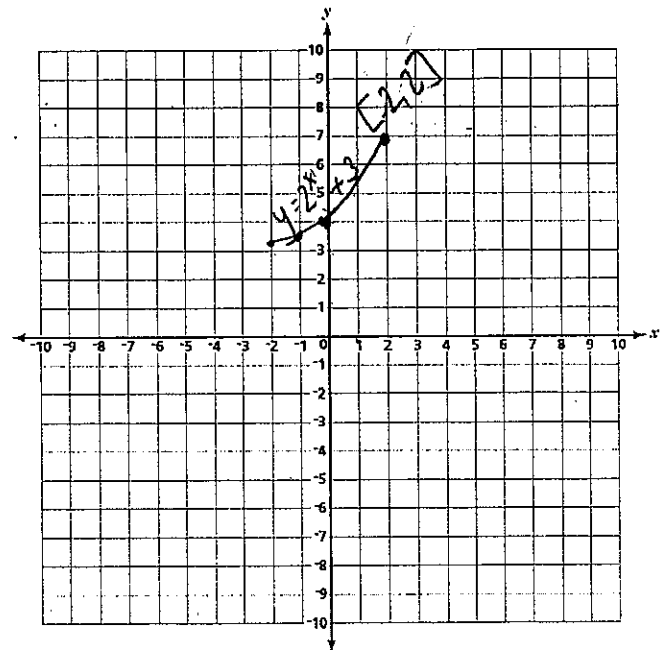


2) $y = 2^x + 3$ $[-2, 2]$

Translated
3 units up
from (0,1)
 $(0,1) \rightarrow (0,4)$

X	Y
-2	3.25
-1	3.5
0	4
1	5
2	7

AND
arrows
b/c of
constraints



3) The graphs of $y=2^x$ and $y=3^x$ have which of the following points in common?

(a) (0,1)

(b) (1,0)

(c) (-1,0)

(d) (0,-1)

4) The approximate population growth of a certain bacteria is represented by the function $f(t) = 5(3)^t$.
What is the population when $t = 4$?

(a) 81

(b) 405

(c) 270

(d) 600

$$f(t) = 5(3)^t$$
$$f(4) = 5(3)^4$$
$$f(4) = 5 \cdot 81 \quad f(4) = 405$$

5) Explain the transformation the following functions represent as compared to the parents graph.

(a) $y = 5^x + 2$

Translated 2 units up from (0,1)

(b) $y = 3^{x+7}$

Translate 7 units left from (0,1)

(c) $y = -4^{x-2} + 1$

• reflect in the x -axis

• Translate it 2 units right and 1 unit up from (0,1)