

Algebra 1

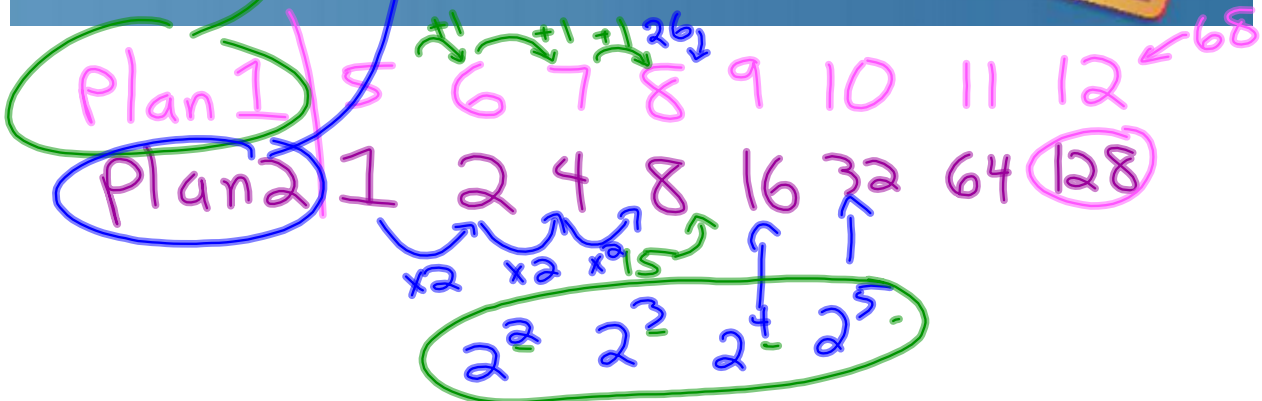
Chapter 7

Section 7-6

Your soccer team wants to practice a drill each day. Which plan will give your team more total practice time over 4 days? Over 8 days? Explain your reasoning.

Plan 1
 5 minutes today
 and then 1 minute
 more each day
 than the previous
 day

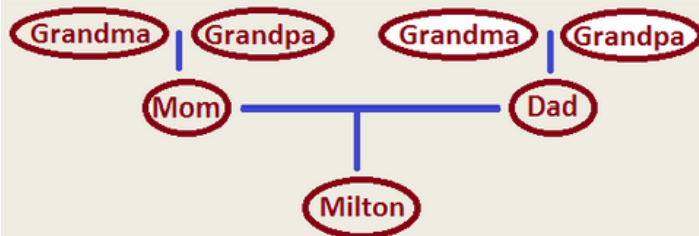
Plan 2
 1 minute today
 and then twice
 as much time
 each day as the
 previous day



Milton is making his family tree. He comes from a long line of only children. The first three generations are drawn below.

List the number of people in each of the first 7 generation.

What happens to the number of people in each generation?

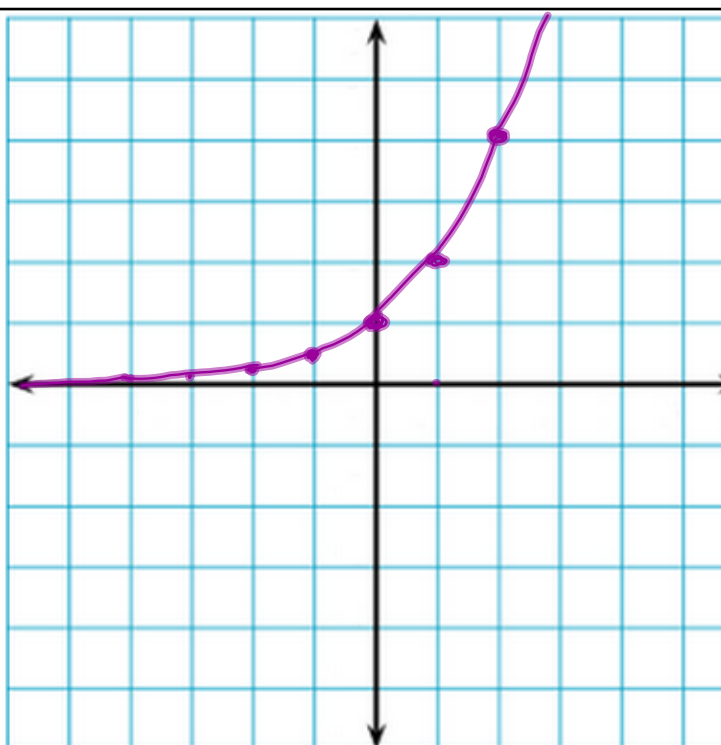


Graph the following functions

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

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

x	y
-2	$2^{-2} = \frac{1}{2^2} = \frac{1}{4} = 0.25$
-1	$2^{-1} = \frac{1}{2} = 0.5$
0	$2^0 = 1$
1	$2^1 = 2$
2	$2^2 = 4$

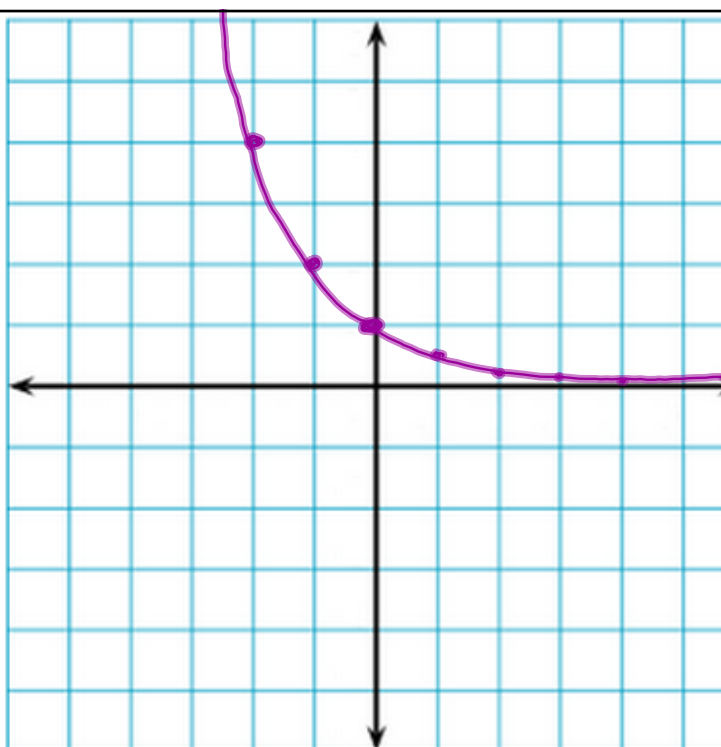


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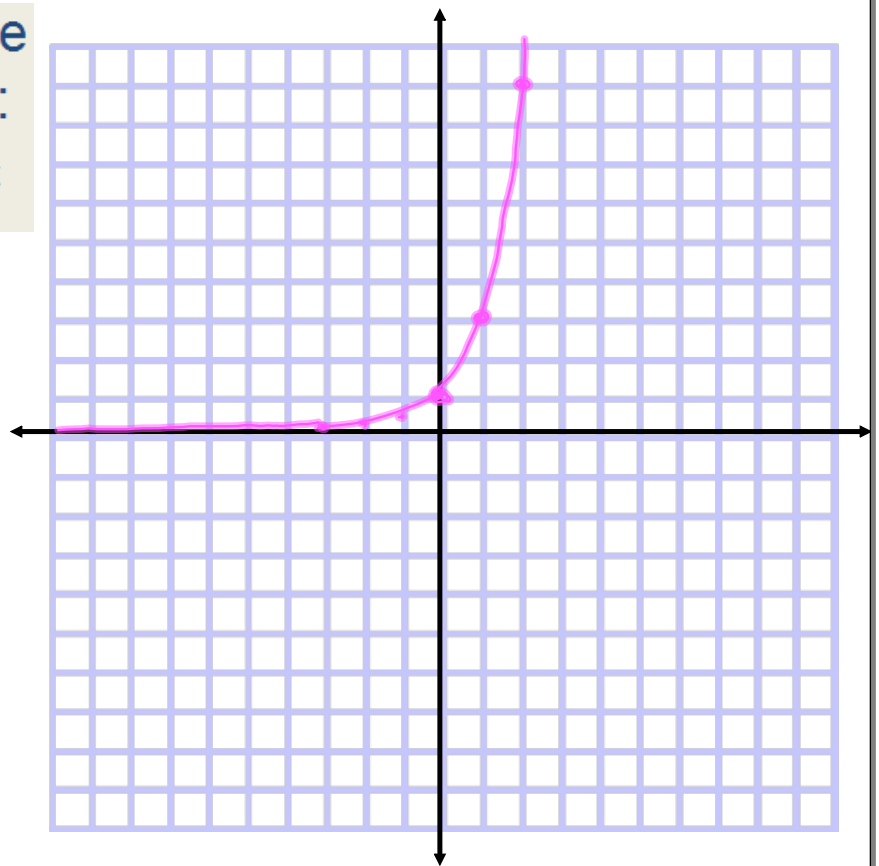
x	y
-2	$\left(\frac{1}{2}\right)^{-2} = 2^2 = 4$
-1	$\left(\frac{1}{2}\right)^{-1} = \frac{2}{1} = 2$
0	$\left(\frac{1}{2}\right)^0 = 1$
1	$\left(\frac{1}{2}\right)^1 = \frac{1}{2}$
2	



Graph the
function:

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

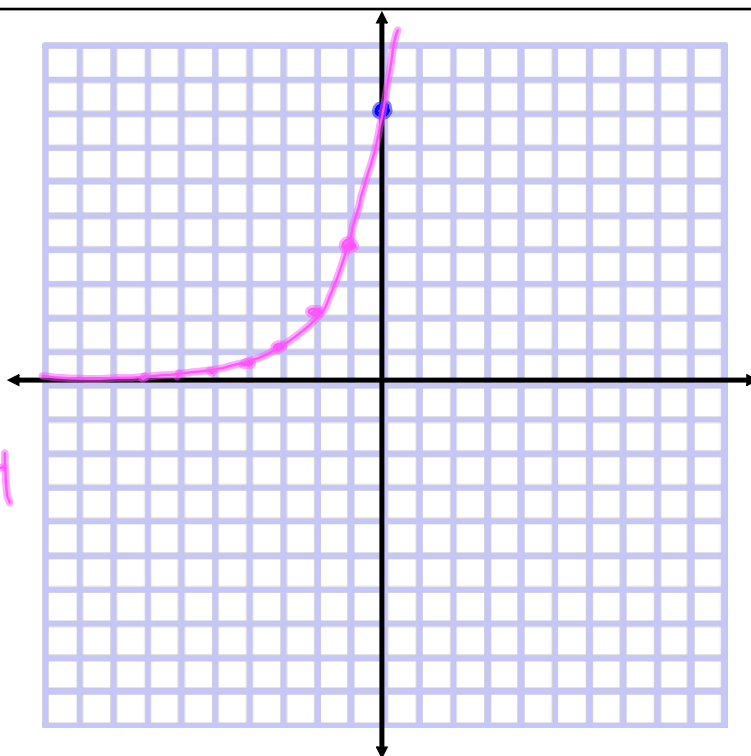
x	y
-3	$\frac{1}{27}$
-2	$\frac{1}{9}$
-1	$\frac{1}{3}$
0	1
1	3
2	9
3	27



Graph the
function:

$$f(x) = 8(2^x)$$

x	y
-2	$8(2^{-2}) = 8 \cdot \frac{1}{2^2}$
-1	$8(2^{-1}) = 8 \cdot \left(\frac{1}{2}\right) = 4$
0	$8(2^0) = 8 \cdot 1 = 8$
1	$8(2^1) = 16$



For the following, use function $f(x) = 4^x$.

$$f(3) = 4^3 = 64 \quad f(8) = 4^8 = 65536$$

$$f(-2) = 4^{-2} = \frac{1}{16} \quad f(2) = 4^2 = 16$$

$$4^4 = \frac{64}{4} = 256$$

$$4^8 = 4^4 \cdot 4^4$$

$$\begin{array}{r} 256 \\ \underline{256} \\ 65536 \end{array}$$

For the following, use function $f(x) = 3(2^x)$

If the domain of the function is $\{-3, 0, 1, 2\}$ then what is the range?

f(x) or y

$$\{3(2^{-3}), 3(2^0), 3(2^1), 3(2^2)\}$$

$$\left\{ \frac{3}{8}, 3, 6, 12 \right\}$$