Algebra RH HW#

Using today's notes and graphs #1-5, complete the following table.

$y = ab^x$	a	b	y-intercept	increasing/decreasing
$y = 3^x$	1	3	1	increasing
$y = \left(\frac{1}{3}\right)^x$	1	$\frac{1}{3}$	1	decreasing
$y = 2\left(\frac{2}{3}\right)^x$	2	$\frac{2}{3}$	2	decreasing
$y = \frac{1}{3}(3)^x$	$\frac{1}{3}$	3	$\frac{1}{3}$	increasing
$f(x) = 3\left(\frac{1}{2}\right)^x$	3	$\frac{1}{2}$	3	decreasing

Fill in the blanks below based on the information from the table.

Exponential functions are represented by the equation $y = ab^x$. *The graph of an exponential function is a curve.*

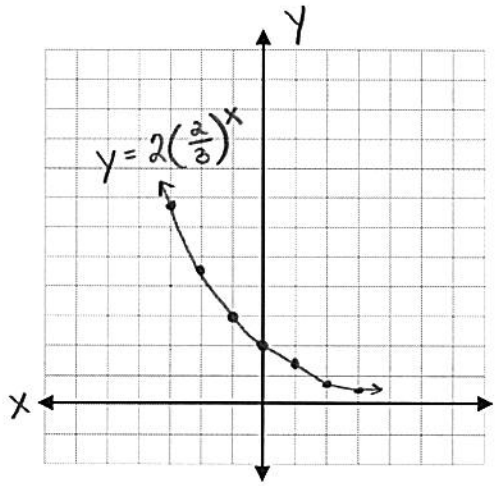
- $y = ab^x$ *will increase if* $b > 1$.
- $y = ab^x$ *will decrease if* $0 < b < 1$.
- The **a** in $y = ab^x$ *represents the* y-intercept.

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

x	y
-3	6.75
-2	4.5
-1	3
0	2
1	$1.\overline{3}$
2	$.\overline{8}$
3	$.\overline{592}$

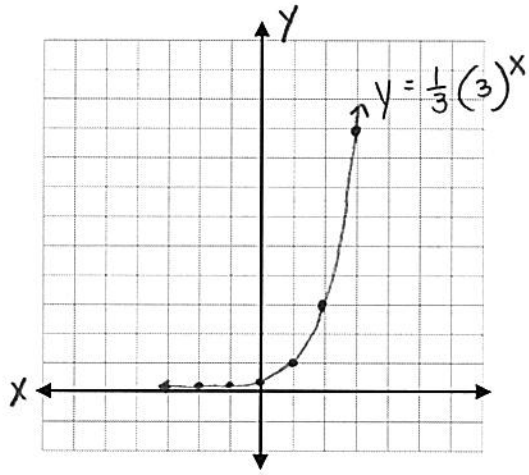
decreasing

y-int : 2



4. $y = \frac{1}{3}(3)^x$

x	y
-3	.01235
-2	.03704
-1	$.\overline{1}$
0	$.\overline{3}$
1	1
2	3
3	9



5. Graph $f(x) = 3\left(\frac{1}{2}\right)^x$ for the given domain: $-2 \le x \le 2$

x	y
-2	12
-1	6
0	3
1	1.5
2	.75