

DO NOW

Simplify:

$$1. 46,656^{\frac{1}{6}}$$

$$\sqrt[6]{46,656}$$

$$\boxed{6}$$

$$2. 32^{\frac{4}{5}}$$

$$(\sqrt[5]{32})^4$$

$$\boxed{16}$$

$$3. 8^{\frac{7}{3}}$$

$$(\sqrt[3]{8})^7$$

$$2^7$$

$$\boxed{128}$$

$$4. 81^{\frac{3}{4}}$$

$$(\sqrt[4]{81})^3$$

$$3^3$$

$$\boxed{27}$$

9.2 Graphing Exponential Functions

exponential function:

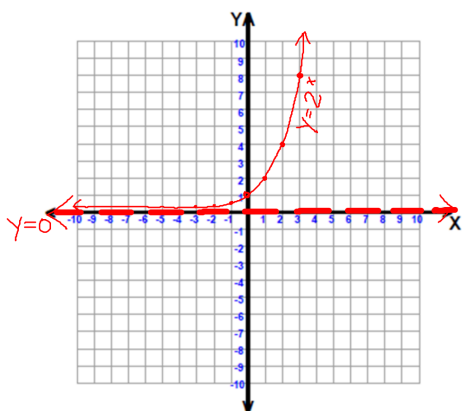
- function where the variable is in the exponent.
- base is a constant (number)
- appear to be flat in one direction and go towards infinity in the other.

asymptote: line the graph approaches but never reaches

★ In an exponential function, there is always a horizontal asymptote.

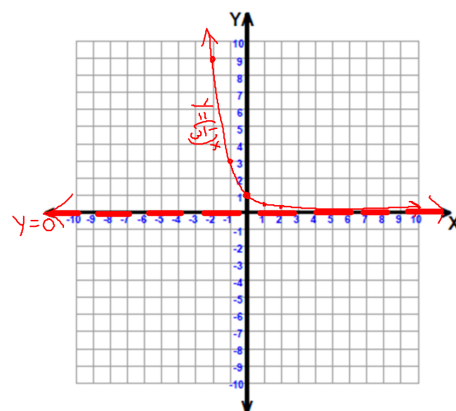
Graph: 1. $y = 2^x$

x	y
-3	.125
-2	.25
-1	.50
0	1
1	2
2	4
3	8



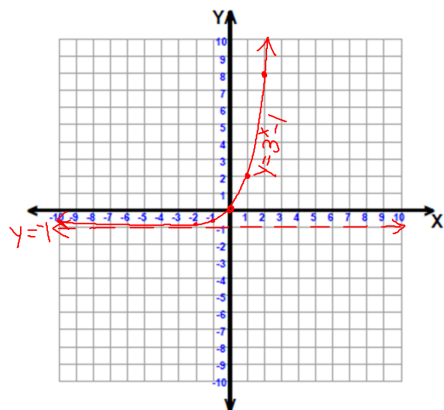
2. $y = (\frac{1}{3})^x$

x	y
-2	9
-1	3
0	1
1	.33
2	.11



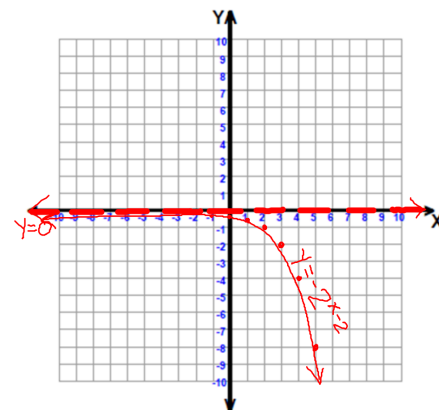
3. $y = 3^x - 1$

x	y
-2	-1.8
-1	-1.5
0	0
1	2
2	8



4. $y = -2^{x-2}$

x	y
-1	-1.25
0	-.25
1	-.5
2	-1
3	-2
4	-4
5	-8



HOMEWORK

Worksheet - HW 9.2