

key

Writing Exponential Functions Worksheet #1

Directions: Answer all questions. Show all work!!!

For each of the following situations, write an exponential model of the form $y = a(b)^x$

1.

x	y
-2	.375
1	1.5
0	6
1	24
2	96

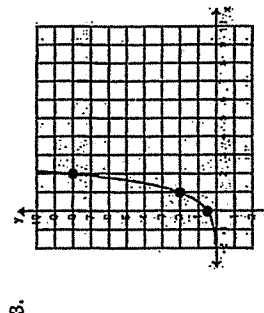
$> \times 4$

Growth/Decay?

$a = 6$

$b = 4$

Equation $y = 6 \cdot 4^x$



Growth/Decay?

$a = .5$

$b = 4$

Equation $y = .5 \cdot 4^x$

$$\begin{array}{r} x \overline{) 4} \\ 0 \overline{) 5} \\ 1 \overline{) 2} \\ 2 \overline{) 8} \end{array}$$

2.

x	y
-2	.041
-1	.286
0	2
1	14
2	98

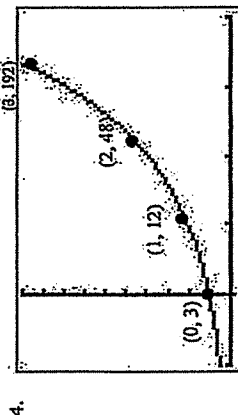
$> \times 7$

Growth/Decay?

$a = 2$

$b = 7$

Equation $y = 2 \cdot 7^x$



Growth/Decay?

$a = 3$

$b = 4$

Equation $y = 3 \cdot 4^x$

$b =$

5.

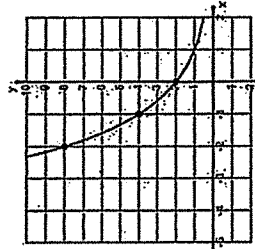
x	y
-2	.0097
-1	.078
0	.625
1	5
2	40

Growth/Decay?

$a = .625$

$b = 8$

Equation $y = .625(8)^x$



Growth/Decay?

$a = 2$

$b = \frac{1}{2}$

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

$b =$

6.

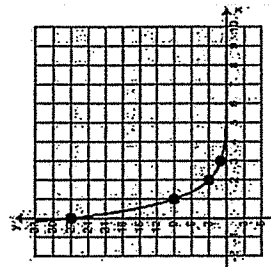
x	y
-2	.0123
1	.111
0	1
1	9
2	81

Growth/Decay?

$a = 1$

$b = 9$

Equation $y = 1 \cdot 9^x$



Growth/Decay?

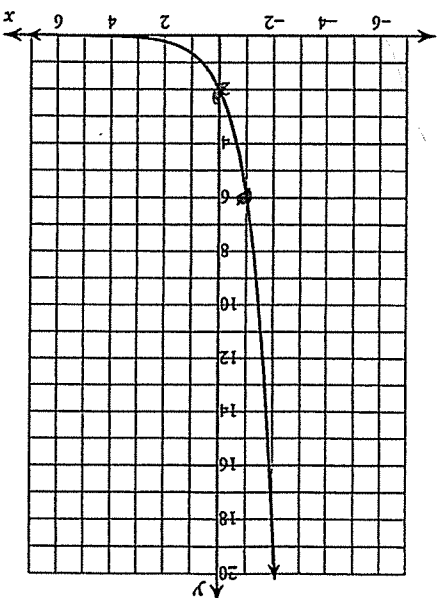
$a = 27$

$b = \frac{1}{3}$

Equation $y = 27 \left(\frac{1}{3}\right)^x$

Write an equation for each graph.

1)

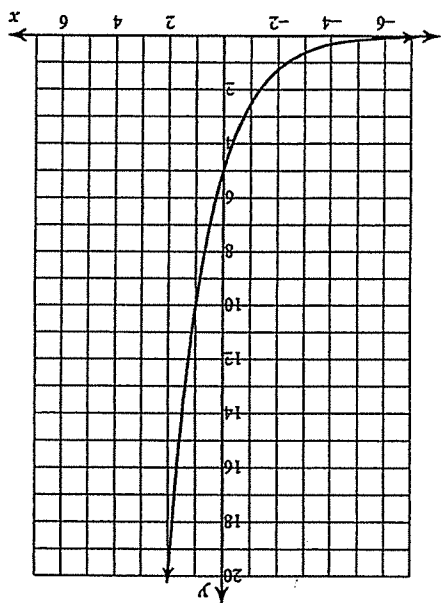


$$a = 2$$

$$b = \frac{1}{3}$$

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

3)

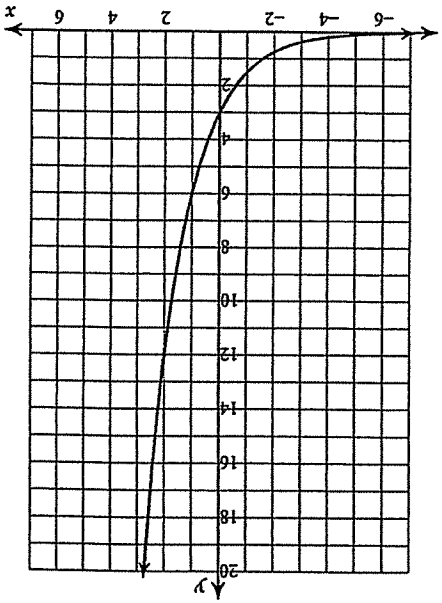


$$a = 5$$

$$b = 2$$

$$y = 5 \cdot 2^x$$

4)

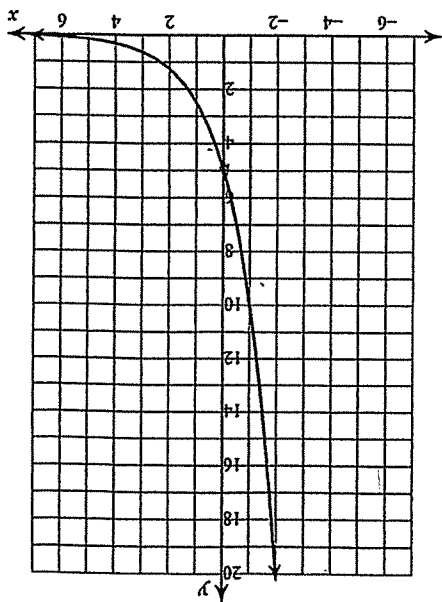


$$a = 3$$

$$b = 2$$

$$y = 3 \cdot 2^x$$

2)



$$a = 5$$

$$b = \frac{1}{2}$$

$$y = 5\left(\frac{x}{2}\right)^{\frac{1}{2}}$$