

Date: \_\_\_\_\_

Name: \_\_\_\_\_

## PRACTICE Finding Equations for Exponentials

Find the equations for each of the following. (All of these have no shifts – use  $y = ab^x$ )

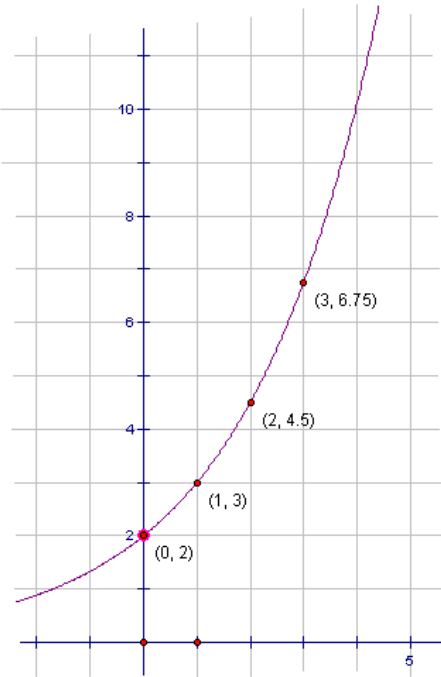
1.

x	y
-2	0.48
-1	1.2
0	3
1	7.5

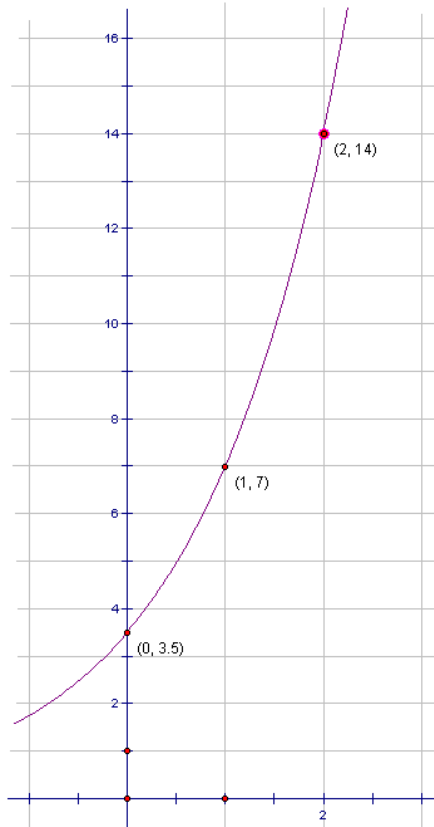
2.

x	y
1	-3.2
2	-0.64
3	-0.128
4	-0.0256

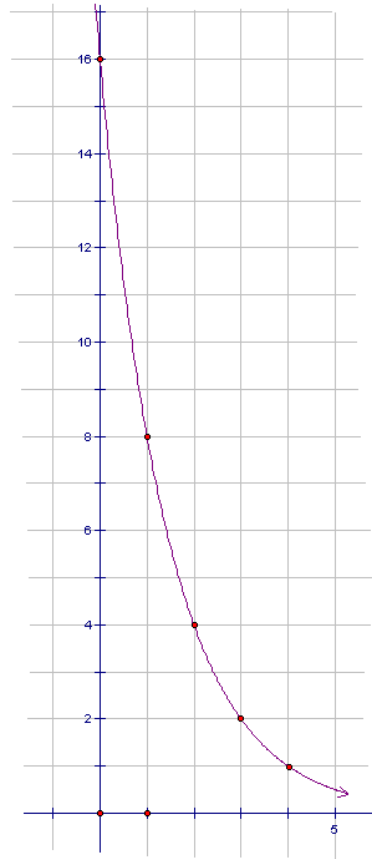
3.



4.



5.



6.

Time (h)	Population
0	2000
1	2270
2	2576
3	2924
4	3319
5	3767
6	4276

7.

$t$	Population (billions)
0	0.79
50	0.98
100	1.22
150	1.51
200	1.88
250	2.33

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Find the equations for each of the following. (All of these HAVE shifts – use  $y = ab^x + c$ )

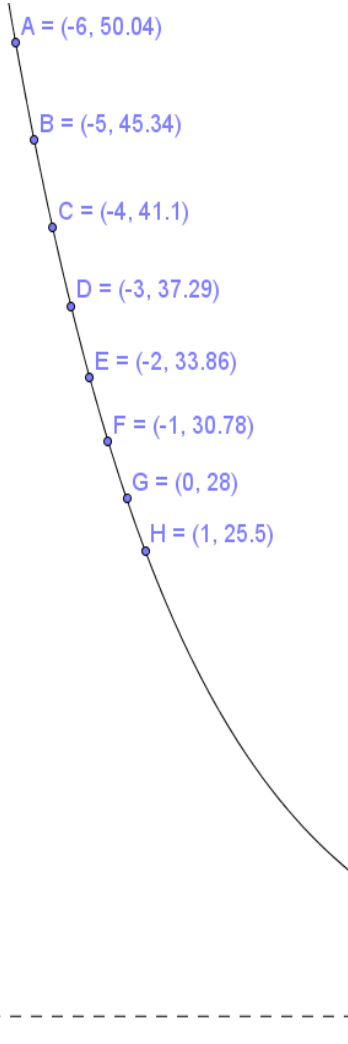
8. Horizontal asymptote at  $y=7$

x	y
2	-20.225
3	-67.869
4	-198.889
5	-559.195

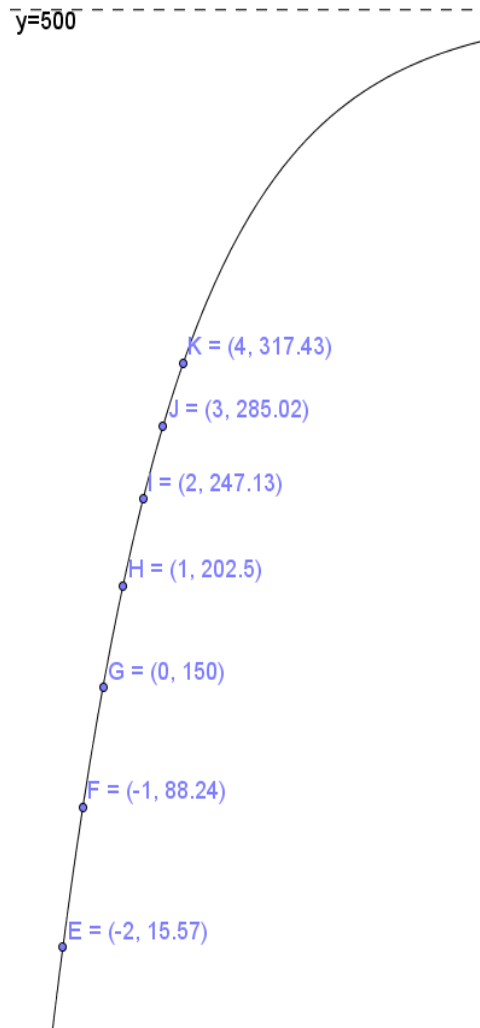
9. Horizontal asymptote at  $y=-6$

x	y
-1	-5.971
0	-5.9
1	-5.65
2	-4.775

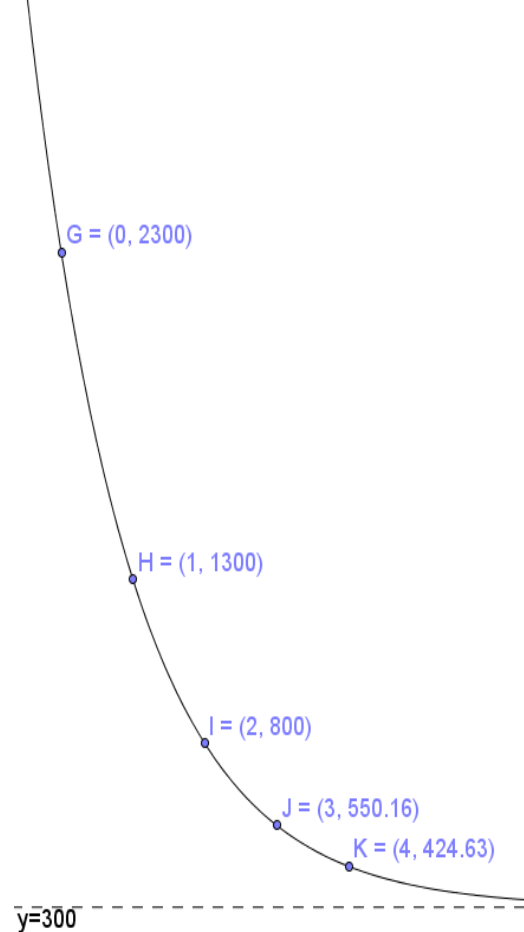
10.



11.



12.



Answers

- $Y=3(2.5)^x$
- $Y=-16(0.2)^x$
- $Y=2(1.5)^x$
- $Y=3.5(2)^x$
- $Y=16(0.5)^x$
- $Y=2000(1.135)^x$
- $Y=0.79(1.24)^{(x/50)}$  or  $y = 0.79(1.0045)^x$
- $Y=-3.6(2.75)^x+7$
- $Y=0.1(3.5)^x-6$
- $Y=25(0.9)^x+3$
- $Y=-350(0.85)^x+500$
- $Y=2000(0.5)^x+300$