

Day 1: Evaluating Exponential Functions

Name: _____

Practice Assignment

Evaluate each exponential function for the stated value.

1. $f(x) = \frac{1}{3}(6)^x$; $x = 2$

2. $f(n) = 10(2)^n$; $f(-2)$

3. $y = 4 \cdot 2^x$; $x = 4$

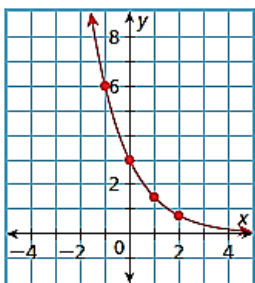
Answer the following word problems:

4. If a basketball is bounced from a height of 20 feet, the function $f(x) = 20(0.9)^x$ gives the height of the ball in feet of each bounce, where x is the bounce number. What will be the height of the 6th bounce? Round your answer to the nearest tenth of a foot.

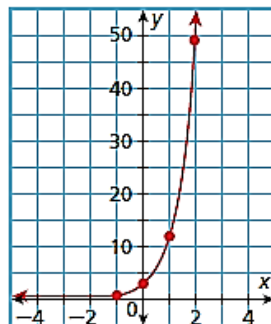
5. Suppose the depth of a lake can be described by the function $y = 334(0.976)^x$, where x represents the number of weeks from today. Today, the depth of the lake is 334 ft. What will be the depth in 6 weeks? Round your answer to the nearest whole number.

Name the asymptote for each graph:

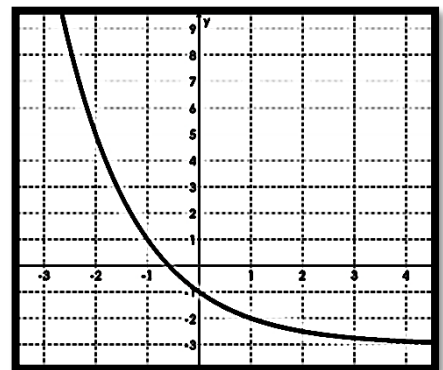
6.



7.



8.



Directions: Decide whether each of the following is an example of exponential growth (increase) or decay (decrease) and explain why. Then state the y-intercept.

9. $y = 5^x$

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

11. $y = -3^x$

12. $y = 2\left(\frac{4}{3}\right)^x$

Directions: Determine if the following tables or graphs represent linear, quadratic, or exponential functions.

13.

x	y
-2	7
-1	4
0	1
1	-2
2	-5

14.

x	y
-1	1.5
0	3
1	6
2	12

15.

x	y
-1	-9
1	9
3	27
5	45

16.

x	y
-2	6
-1	3
0	2
1	3
2	6

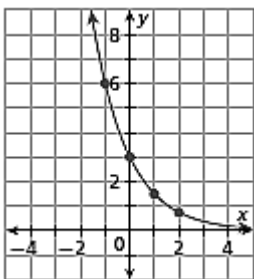
17.

Volleyball Tournament	
Round	Teams Left
1	16
2	8
3	4
4	2

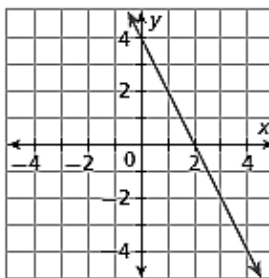
18.

x	y
10	1
11	6
12	36
13	216

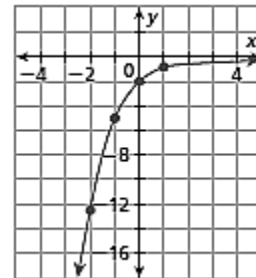
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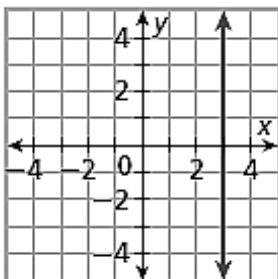
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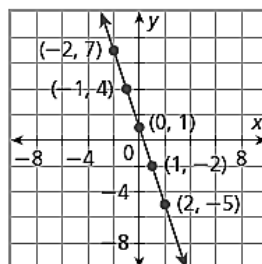
21.



22.



23.



24.

