

6.3 Puzzle Time

How Do You Find A Train?

Write the letter of each answer in the box containing the exercise number.

Determine whether the equation or table represents an exponential function.

1. $y = 2(15)^x$ 2. $y = 6(-11)^x$

3.

x	-2	-1	0	1	2
y	1	5	25	125	625

4.

x	7	8	9	10	11
y	2	6	10	14	18

Evaluate the function for the given value of x.

5. $y = 4^x; x = -2$ 6. $y = 3(5)^x; x = 2$
 7. $y = -7(2)^x; x = -5$ 8. $f(x) = 0.25^x; x = -4$
 9. $f(x) = -\frac{1}{6}(6)^x; x = 3$ 10. $y = \frac{1}{9}(27)^x; x = \frac{2}{3}$

Describe the domain and range of the function.

11. $f(x) = 2^x + 3$ 12. $f(x) = 5^{x-4}$
 13. $y = -\left(\frac{1}{6}\right)^x - 8$ 14. $y = 9^{x+1} - 1$

15. The function $y = 3(2)^x$ represents the population of bees in a beehive, where x represents the number of days. How many bees are in the beehive after 4 days?

Answers

S. no

L. yes

W. -36

T. $-\frac{7}{32}$

I. 48

F. $\frac{1}{16}$

A. 256

T. 1

C. 75

O. all real numbers; $y > -1$

R. all real numbers; $y < -8$

K. all real numbers; $y > 0$

O. all real numbers; $y > 3$

5	11	3	1	14	9		15	7	4		10	13	8	6	12	2
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USE Section 6.3 & the examples in the reading to help you!!!

For Exercises 1–6, determine whether the equation represents an exponential function. Explain why!!!

1. $y = 9x$

2. $y = 2(3)^x$

3. $y = (-2)^x$

4. $y = -6^x$

5. $y = 5(1)^x$

6. $y = 7x^3$

In Exercises 7 and 8, determine whether the table represents a *linear* or an *exponential* function. Explain why!!!

7.

x	y
1	3
2	9
3	27
4	81

8.

x	y
1	4
2	6
3	8
4	10

In Exercises 9 and 10, evaluate the function for the given value of x . Show work.

9. $y = 2(4)^x; x = -2$

10. $f(x) = -3(5)^x; x = 3$

In Exercises 11–14, graph the function. Use a table to help. Describe the domain and range of f . Use the attached graph paper.

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

12. $f(x) = -2(0.5)^x$

13. $f(x) = -\left(\frac{1}{3}\right)^x$

14. $f(x) = 2^x + 3$

***One the back side of the graph paper, work on these book problems!

Pg. 311 #41, 42, 46, 47, 49, 52, 59

*****Many of you owe me test corrections...when are you going to actually do them?