

# Practice 8-7

## Exponential Functions

Complete the table for each exercise.

1. Investment increases by 1.5 times every 5 yr.

Time	Value of Investment
Initial	\$800
5 yr	\$1200
10 yr	\$1800
15 yr	\$2700
20 yr	
25 yr	

2. The number of animals doubles every 3 mo.

Time	Number of Animals
Initial	18
3 mo	36
6 mo	72
9 mo	
12 mo	

3. The amount of matter halves every year.

Time	Amount of Matter
Initial	3200 g
1 yr	1600 g
2 yr	800 g
3 yr	

Evaluate each function for the domain  $\{-2, 0, 1, 2, 4\}$ .

4.  $y = 2^x$

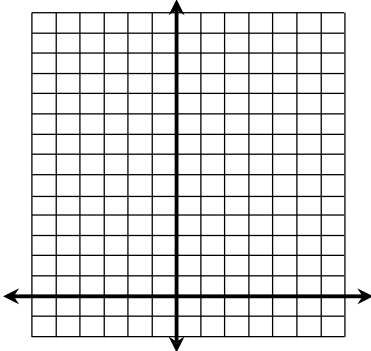
5.  $y = 0.8^x$

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

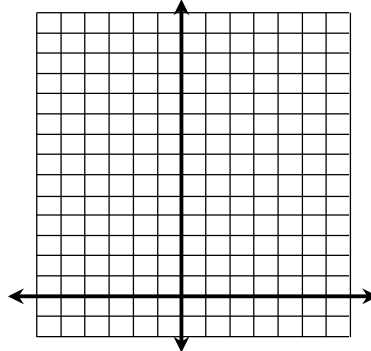
7.  $y = \frac{1}{4} \cdot 8^x$

Graph each function.

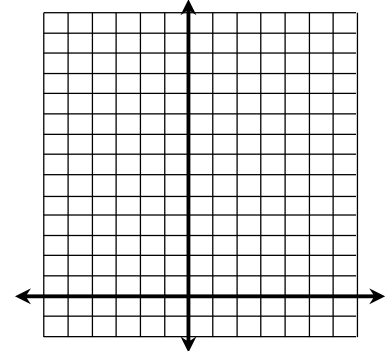
8.  $y = 3^x$



9.  $y = 1.5^x$



10.  $y = 6 \cdot 0.5^x$



Evaluate each function rule for the given values.

11.  $y = 5.5^x$  for  $x = 1, 3,$  and  $4$

12.  $y = 4 \cdot 1.5^x$  for  $x = 2, 4,$  and  $5$

13.  $y = 0.7^x$  for  $x = 1, 3,$  and  $4$

14.  $y = 3.1^x$  for  $x = 1, 2,$  and  $3$

Solve each equation.

15.  $5^x = 625$

16.  $2 \cdot 4^x = 128$

17.  $4^x = \frac{1}{64}$

18.  $4 \cdot 5^x = \frac{4}{125}$