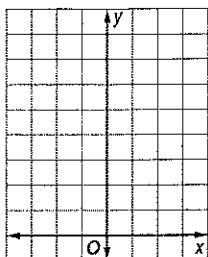


7-5 Skills Practice

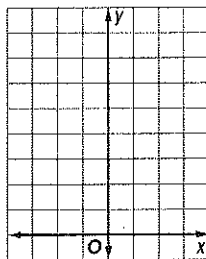
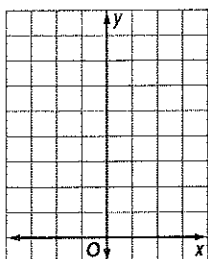
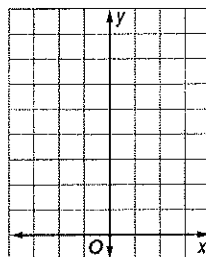
Exponential Functions

Graph each function. Find the y-intercept, and state the domain and range.

1. $y = 2^x$



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



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

4. $y = 3^x + 2$

Determine whether the set of data shown below displays exponential behavior. Write *yes* or *no*. Explain why or why not.

5.

x	-3	-2	-1	0
y	9	12	15	18

6.

x	0	5	10	15
y	20	10	5	2.5

7.

x	4	8	12	16
y	20	40	80	160

8.

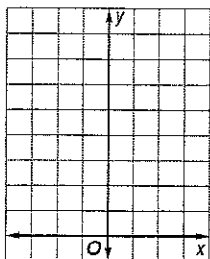
x	50	30	10	-10
y	90	70	50	30

7-5 Practice

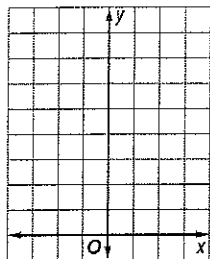
Exponential Functions

Graph each function. Find the y-intercept and state the domain and range.

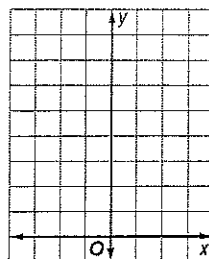
1. $y = \left(\frac{1}{10}\right)^x$



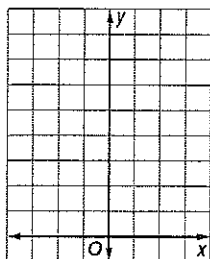
2. $y = 3^x$



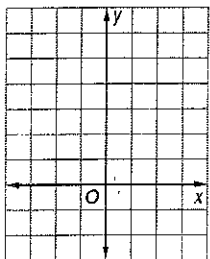
3. $y = \left(\frac{1}{4}\right)^x$



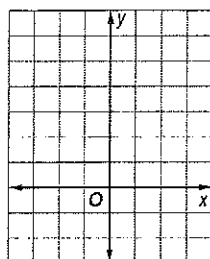
4. $y = 4(2^x) + 1$



5. $y = 2(2^x - 1)$



6. $y = 0.5(3^x - 3)$



Determine whether the set of data shown below displays exponential behavior. Write *yes* or *no*. Explain why or why not.

7.

x	2	5	8	11
y	480	120	30	7.5

8.

x	21	18	15	12
y	30	23	16	9

9. **LEARNING** Ms. Klemperer told her English class that each week students tend to forget one sixth of the vocabulary words they learned the previous week. Suppose a student learns 60 words. The number of words remembered can be described by the function $W(x) = 60\left(\frac{5}{6}\right)^x$, where x is the number of weeks that pass. How many words will the student remember after 3 weeks?

10. **BIOLOGY** Suppose a certain cell reproduces itself in four hours. If a lab researcher begins with 50 cells, how many cells will there be after one day, two days, and three days? (*Hint*: Use the exponential function $y = 50(2^x)$.)