

5.6**Practice B**

In Exercises 1 and 2, determine the type of function represented by the table. Explain your reasoning.

1.

x	0	2	4	6	8
y	$\frac{1}{8}$	$\frac{1}{2}$	2	8	32

2.

x	0	1	2	3
y	8	12	18	27

In Exercises 3–8, write an exponential function $y = ab^x$ whose graph passes through the given points.

3. (1, 10), (2, 20)

4. (1, 18), (3, 162)

5. (2, 36), (3, 72)

6. (3, 375), (4, 1875)

7. (2, 3.6), (5, 777.6)

8. (2, 8), (5, 512)

9. Describe and correct the error in determining the type of function represented by the data.

X

x	0	2	4	6	8
y	-2	-4	-8	-16	-32

$\xrightarrow{\times 2}$ $\xrightarrow{\times 2}$ $\xrightarrow{\times 2}$ $\xrightarrow{\times 2}$

The outputs have a common ratio of 2, but the outputs are negative, so the data does not represent a recognizable function.

In Exercises 10 and 11, determine whether the data show an exponential relationship. Then write a function that models the data.

10.

x	1	3	5	7	9
y	64	32	16	8	4

11.

x	0	10	20	30	40
y	0	15	30	45	60

12. Use a graphing calculator to find an exponential model for the data in the table.

x	2	5	6	8	9
y	7.65	25.819	38.728	87.138	130.71