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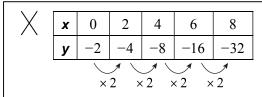
In Exercises 1 and 2, determine the type of function represented by the table. Explain your reasoning.

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	0	2	4	6	8
y	−2	−4	−8	−16	−32

×2   ×2   ×2   ×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