Name _____ Date _____

In Exercises 1–6, tell whether *x* and *y* show *direct variation*, *inverse variation*, or *neither*.

1. $y = \dfrac{5}{x}$

2. $xy = 7$

3. $6x = y$

4. $\dfrac{y}{x} = 10$

5. $x + y = 8$

6. $2y = x$

In Exercises 7–10, tell whether *x* and *y* show *direct variation*, *inverse variation*, or *neither*.

7.

x	2	4	8	10
y	38	19	9.5	7.6

8.

x	3	5	8	10
y	15	9	6	5.5

9.

x	1.5	4	6.5	10
y	9	24	39	60

10.

x	1.5	4	6	12
y	84	31.5	21	10.5

In Exercises 11–13, the variables *x* and *y* vary inversely. Use the given values to write an equation relating *x* and *y*. Then find *y* when *x* = 3.

11. $x = 6, y = -5$

12. $x = 1, y = 7$

13. $x = 3, y = \dfrac{2}{3}$

14. The variables *x* and *y* vary inversely. Describe and correct the error in writing an equation relating *x* and *y*.

$$\times \quad x = 6, y = 5$$
$$\dfrac{y}{x} = a$$
$$\dfrac{5}{6} = a$$
$$\text{So, } y = \dfrac{5}{6x}.$$

15. The number *y* of songs that can be stored on an MP3 player varies inversely with the average size *x* of a song. A certain MP3 player can store 3000 songs when the average size of a song is 5 megabytes. Find the number of songs that will fit on the MP3 player when the average size of a song is 4 megabytes.