8-1

Practice

Form G

Inverse Variation

Is the relationship between the values in each table a *direct variation*, **an** *inverse variation*, **or** *neither*? **Write equations to model the direct and inverse variations.**

1.

x	2	4	5	20
y	10	5	4	1

3.

x	1	2	5	7
y	6	12	30	42

5.

x	$\frac{1}{10}$	$\frac{1}{2}$	$\frac{3}{2}$	2
y	31	7	3	$\frac{5}{2}$

Suppose that x **and** y **vary inversely. Write a function that models each inverse variation. Graph the function and find** y **when** $x = 10$.

7. $x = 7$ when $y = 2$

9. $x = \frac{1}{3}$ when $y = \frac{9}{10}$

11. The minimum number of carpet rolls n needed to carpet a house varies directly as the house's square footage h and inversely with the square footage r in one roll. It takes a minimum of two 1200-ft^2 carpet rolls to cover 2300 ft^2 of floor. What is the minimum number of 1200-ft^2 carpet rolls you would need to cover 2500 ft^2 of floor? Round your answer up to the nearest half roll.

8-1   **Practice** (continued)   *Form G*
_____
Inverse Variation

Each ordered pair is from an inverse variation. Find the constant of variation.

13. $\left(3\dfrac{1}{3}\right)$ **15.** $(10, 5)$

17. $(-13, 22)$ **19.** $\left(\dfrac{1}{3}, \dfrac{6}{7}\right)$

                        21. $\left(\dfrac{5}{8}, -\dfrac{2}{5}\right)$

Write the function that models each variation. Find z when $x = 6$ and $y = 4$.

23. z varies jointly with x and y. When $x = 7$ and $y = 2$, $z = 28$.

Each pair of values is from an inverse variation. Find the missing value.

25. $(2, 4), (6, y)$ **27.** $(1.2, 4.5), (2.7, y)$