Name _____ Class _____ Date _____

Reteaching 4-5

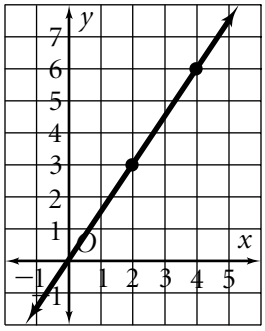
Direct Variation

OBJECTIVE: Using constant of variation to solve problems

MATERIALS: Graph paper and a straight piece of wire or pipe cleaner

Example

Is the equation of the line joining the points (2, 3) and (4, 6) a direct variation? If it is, find the constant of variation.



← **Graph the two points. Place the wire on the graph so that it passes through the two points given.**

a. Is the graph a straight line passing through the origin? Yes, it is.

b. Is the equation of this line a direct variation? Yes, since the line passes through the origin.

c. What is the constant of variation?

$y = kx$ ← **Write the general form of a direct variation.**

$3 = k(2)$ ← **Substitute the coordinates of either point.**

$k = \frac{3}{2}$ ← **Solve for *k*.**

The constant of variation is $\frac{3}{2}$.

Exercises

Work with a partner. Draw axes and label them and the origin on your graph paper. One partner places the wire on the graph so that it passes through the two points given. The other partner answers the questions. Exchange roles for each exercise.

Is the equation of the line joining each pair of points a direct variation? If it is a direct variation, what is the constant of variation?

1. $(-1, 3), (1, -3)$

2. $(0, 3), (-1, 1)$

3. $(1, -2), (4, -8)$

4. $(5, 5), (-5, -5)$

5. $(2, 4), (1, 2)$

6. $(2, 3), (3, 5)$

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