



# Connecting Ratios to Graphs

## Student Activity

Name \_\_\_\_\_

Class \_\_\_\_\_

In this activity, you will interpret ratios as ordered pairs and relate a table of ratios to a graph.

1. Write the definition of the following key term:

**Ordered pair:**

2. Which of the following points will also follow the same pattern even if they do not appear in the table? Explain your thinking.

a.  $(1, \frac{2}{3})$

b.  $(1, \frac{3}{2})$

c.  $(24, 36)$

d.  $(3, 2)$

3. 2 pounds of fruit cost \$5. Sammy argued that 6 pounds of fruit should cost \$9 because 4 more pounds of fruit should cost \$4 more. Do you agree or disagree with Sammy? Find at least two different ways to explain your thinking.

4. Use **Reset** to start over. Move the point to  $(2, 1)$ . Generate four more points on the graph. Explain the correspondence between the table and the graph.



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5. If the ratio is 4:7, which of the following will always be true about the rate of change in moving from one point to another on the line? Explain your reasoning in each case.
- a. moving over 4 units and up 7 units.
  - b. moving over 7 units and up 4 units.
  - c. moving over 1 unit and up  $1\frac{3}{4}$  of a unit.
  - d. moving up 2 units and over 3.5 units



6. Set up the TNS activity for the following ratio: 2 centimeters on a blue print represent 7 meters.
- a. Create a table that would help the blueprint maker convert at least six dimensions from the blueprint into meters. Explain how you created your table.

| centimeters | meters |
|-------------|--------|
|             |        |
|             |        |
|             |        |
|             |        |
|             |        |
|             |        |
|             |        |

- b. A room is 35 meters wide. How long would it be on the blueprint?
- c. Geoff claims that every centimeter on the blueprint represents  $3\frac{1}{2}$  meters. Do you agree? Why or why not?
7.  The drama club had 6 girls to every 8 boys. Enter the ratio in the table and generate a graph based on the information. Suppose there are fewer than 80 students in the club. Find three possible numbers of boys and girls in the club.