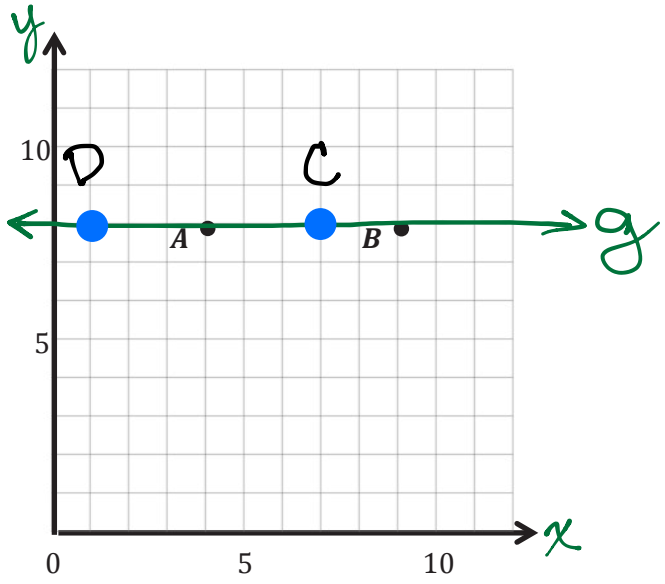
Name _____ Date _____

1. Use the coordinate plane to answer the questions.



   a. Use a straightedge to construct a line that goes through points A and B. Label the line g.
   b. Line g is parallel to the x -axis and is perpendicular to the y -axis.
   c. Draw two more points on line g. Name them C and D. (Answers will vary.)
   d. Give the coordinates of each point below.

A: (4,8) B: (9,8)

C: (7,8) D: (1,8)

   e. What do all of the points on line g have in common? The y coordinate is 8.

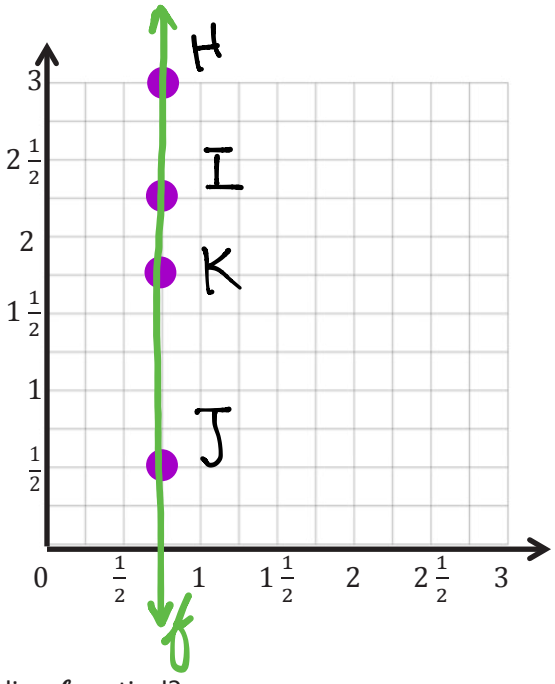
   f. Give the coordinates of another point that falls on line g with an x-coordinate greater than 25.

(Answers will vary.) (100,8)

2. Plot the following points on the coordinate plane to the right.

H: $(\frac{3}{4}, 3)$ I: $(\frac{3}{4}, 2\frac{1}{4})$

J: $(\frac{3}{4}, \frac{1}{2})$ K: $(\frac{3}{4}, 1\frac{3}{4})$



   a. Use a straightedge to draw a line to connect these points. Label the line f.
   b. In line f, x = 3/4 for all values of y.
   c. Circle the correct word:

Line f is *parallel* (*perpendicular*) to the x-axis.

Line f is (*parallel*) *perpendicular* to the y-axis.

   d. What pattern occurs in the coordinate pairs that make line f vertical?

The x coordinate is always 3/4.

3. For each pair of points below, think about the line that joins them. For which pairs is the line parallel to the x-axis? Circle your answer(s). Without plotting them, explain how you know.

a. (3.2, 7) and (5, 7) b. (8, 8.4) and (8, 8.8) c. $(6\frac{1}{2}, 12)$ and (6.2, 11)

The two points are the same distance above the x-axis.

4. For each pair of points below, think about the line that joins them. For which pairs is the line parallel to the y-axis? Circle your answer(s). Then, give 2 other coordinate pairs that would also fall on this line.

a. (3.2, 8.5) and (3.22, 24) b. $(13\frac{1}{3}, 4\frac{2}{3})$ and $(13\frac{1}{3}, 7)$ c. (2.9, 5.4) and (7.2, 5.4)

The two points are the same distance from the y-axis.

5. Write the coordinate pairs of 3 points that can be connected to construct a line that is $5\frac{1}{2}$ units to the right of and parallel to the y-axis.

a. $(5\frac{1}{2}, 2)$ b. $(5\frac{1}{2}, 4\frac{2}{3})$ c. $(5\frac{1}{2}, 3)$

Answers will vary.

6. Write the coordinate pairs of 3 points that lie on the y-axis.

a. $(0, 2)$ b. $(0, 4\frac{1}{2})$ c. $(0, 3)$

7. Leslie and Peggy are playing *Battleship* on axes labeled in halves. Presented in the table is a record of Peggy's guesses so far. What should she guess next? How do you know? Explain using words and pictures.

(5, 5)	miss
(4, 5)	hit
$(3\frac{1}{2}, 5)$	miss
$(4\frac{1}{2}, 5)$	miss

She should guess immediately above or below the hit.