

How Many Points?

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Summary	Students work with: (a) a context — distance as a function of time; (b) generating coordinates.
Goals	<ol style="list-style-type: none">1. Increase facility with Cartesian plane.2. Work on graph-table-narrative interconnections.3. Begin to introduce rational numbers and the idea that a line contains an infinite number of points.
Keywords	Compare/Contrast Functions Contextualized Situations Coordinate Pairs Fractions Full Class Discussion Function Representations Interpretation of Graphs Linear Functions Production of Graphs Production of Tables Small Group Work

Activity Plan:

1. Labels on each axis [Whole Class]

Show the overhead on Page 1 and distribute the corresponding handout (also Page 1). Ask children to discuss what is new and what is missing. Ask for suggestions to complete the picture and ask each child to label points on each axis. Together with the children complete the picture in the overhead.

Once the labels on each axis are included, use a complete printed version (the overhead on Page 2) to continue the discussion and to give children an opportunity to correct possible mistakes.

2. Completing a table and plotting points [Group Work]

Distribute the handout on Page 3 and ask students to work in pairs to complete the table and to plot points in the graph space showing that:

Every two hours Jake walks six miles

Discuss the students' work in terms of time and distance.

The overhead on Page 4 has the completed table and graph to use for discussion with the class.

If there is time left, plot the points (in a different color so they can differentiate whose points are whose) for the statement:

Every hour Liza walks two miles

If there is time left, discuss "Who walks faster? Jake or Liza?"

3. Homework (Page 5)

For homework the children will plot points for each half hour for Jake.

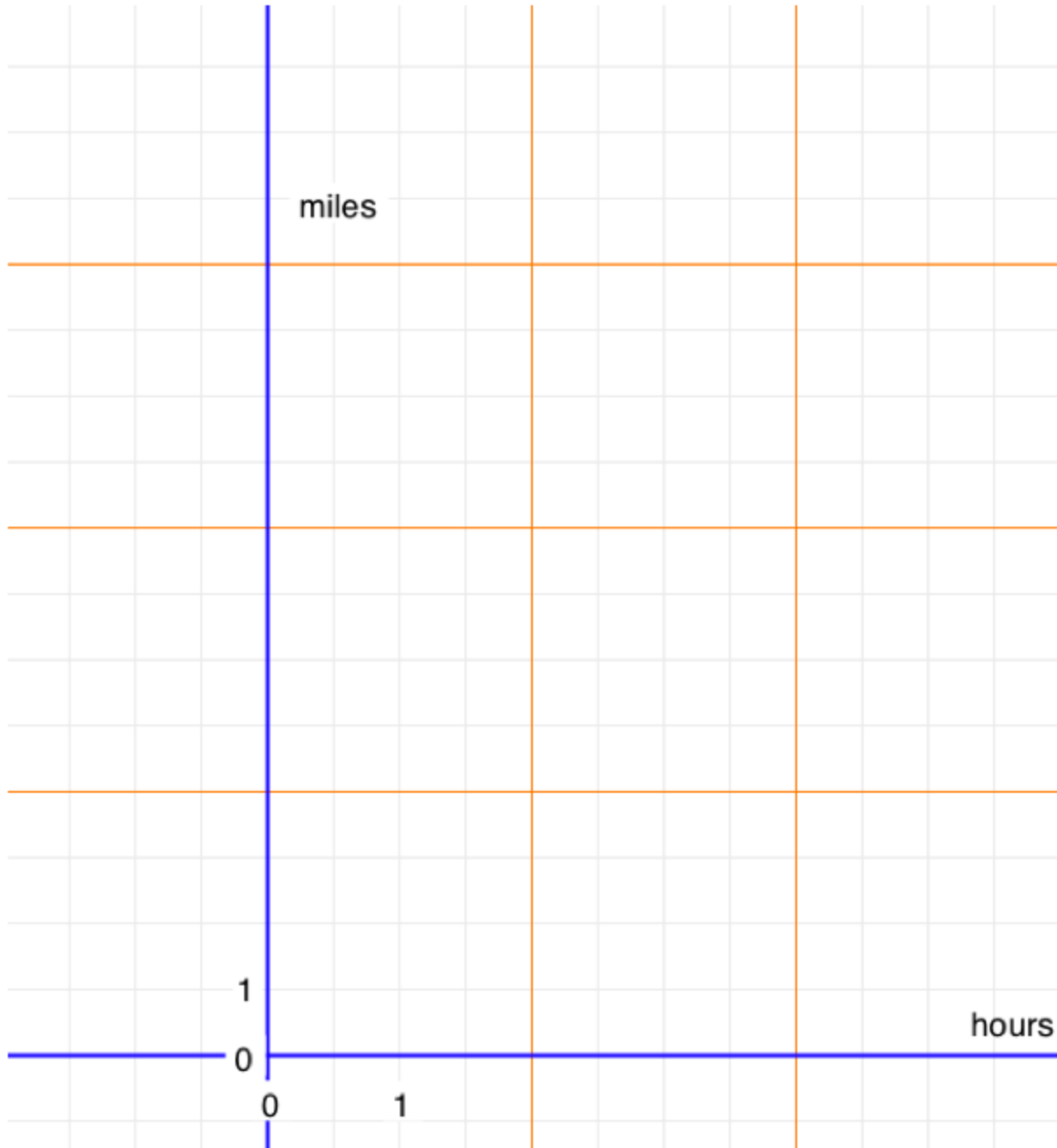
The overhead on Page 6 has the completed table and graph to use for discussion with the class.

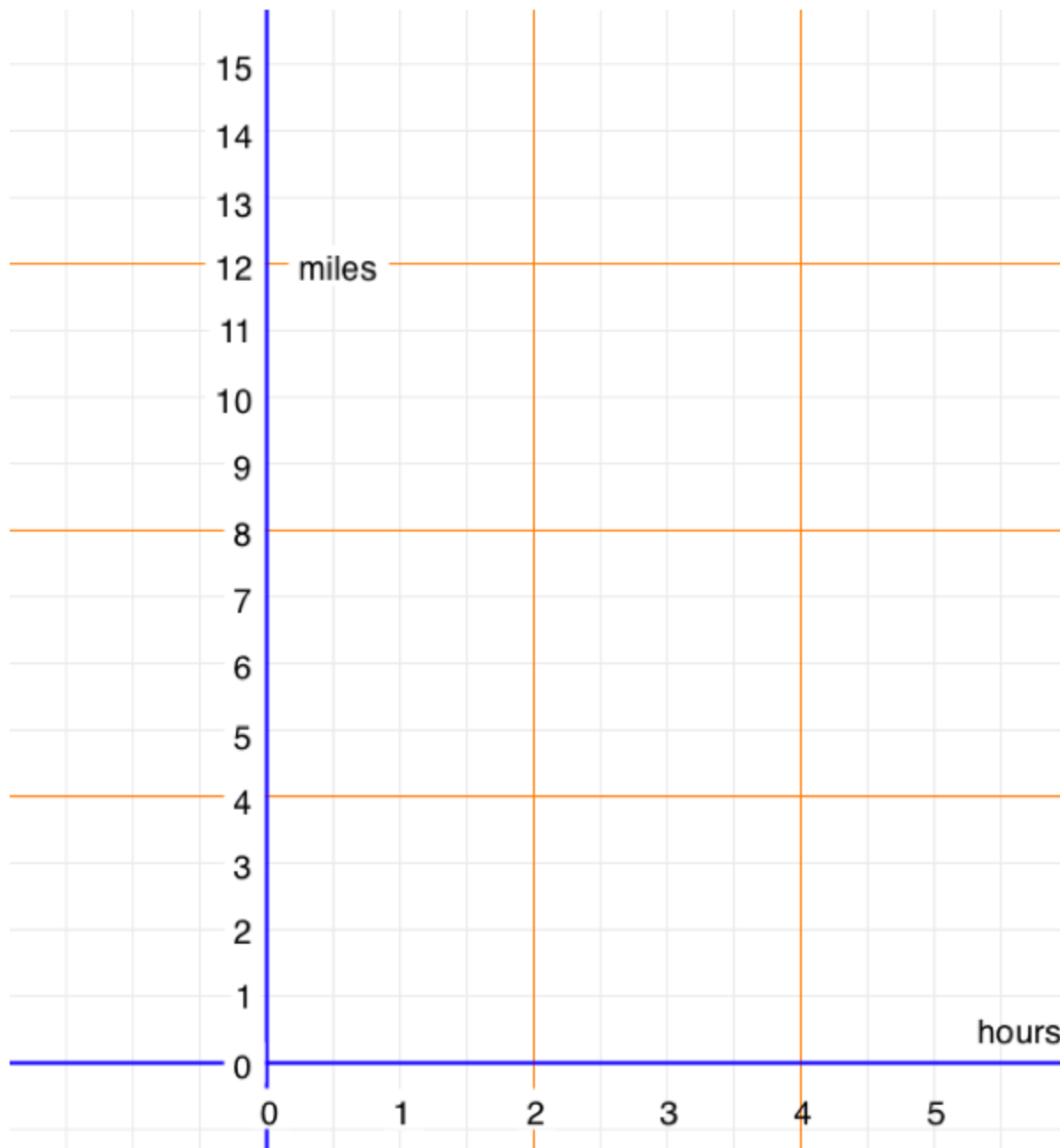
Overhead and Handout: Coordinates

(Page 1)

Name: _____ Date: _____

What is new? And what is missing?

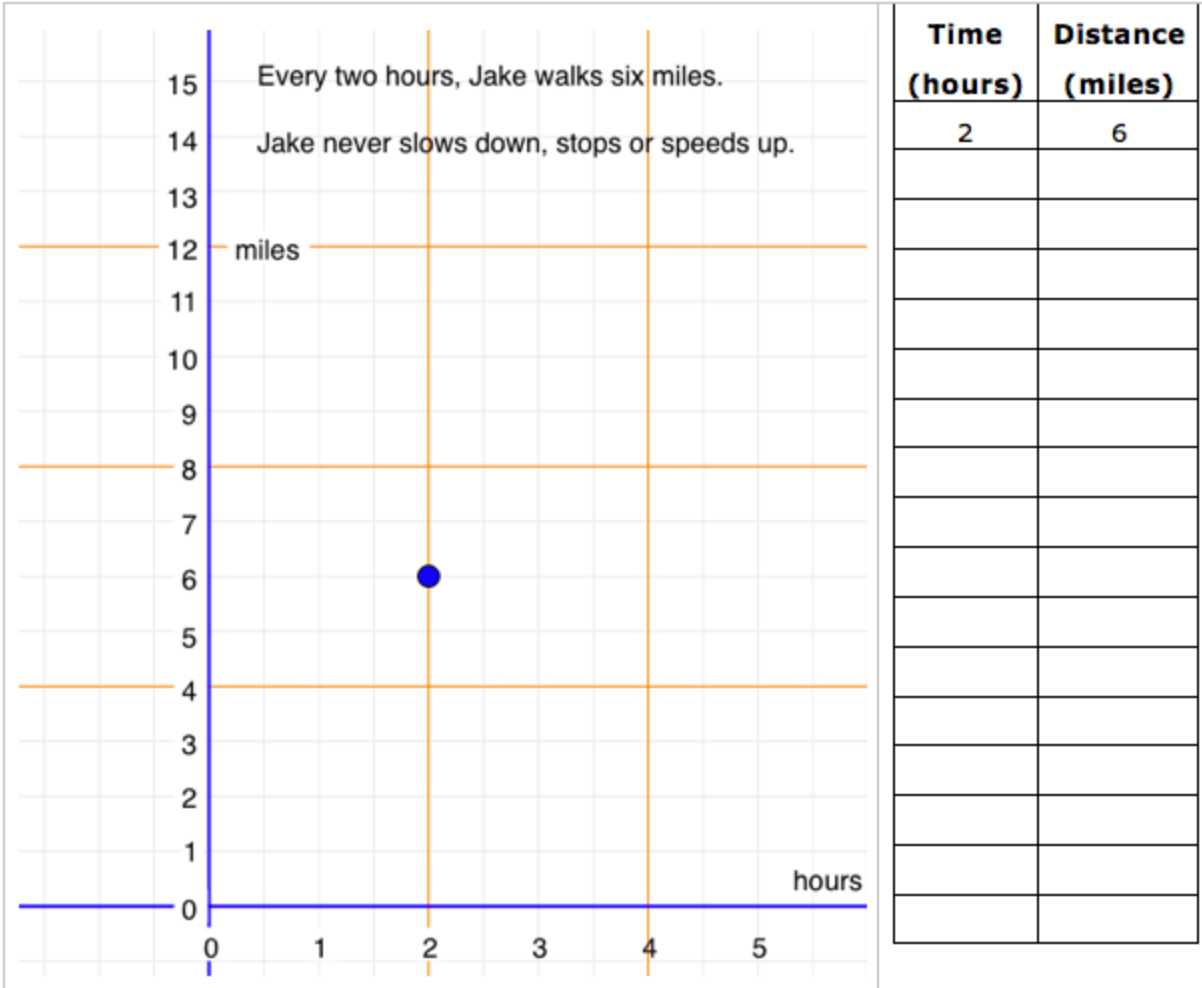




Overhead and Handout: Distance as a Function of Time (With Constant Speed) (Page 3)

Name: _____ Date: _____

Show some other points that are on the graph that represent Jake's walk.
Write each point in the table.



If you have time, plot the points (using a different color) for: Every hour
Liza walks two miles.

