Exploring Dot Plots and Landmarks

Home Link 1-2

NAME DATE TIME

SRB 283

(1) Draw a dot plot for the following spelling test scores:

100, 100, 95, 90, 92, 93, 96, 90, 94, 90, 97

(2) The mode of the data in Problem 1 is _____.

(3) Draw a dot plot that represents data with the landmarks shown below. Use at least 10 numbers.

Range: 7 Minimum: 6 Modes: 8 and 11

(4) Explain how you decided where to place your data on the dot plot in Problem 3.

_____

_____

_____

(5) Describe a situation the data in the dot plot in Problem 3 might represent.

_____

(6) Give the dot plot a title. Be sure to label the unit (for example, dollars or miles) for the number line.

Find an interesting graph on the Internet or in a newspaper or magazine. Bring it to class tomorrow.

Using the Mean to Solve Problems

Home Link 1-3

NAME DATE TIME

SRB 284-288

(1) Ms. Li brought pumpkin seed packs for her class. Each student received a pack. Her class predicted that there were 30 seeds in each pack. Here are the total number of seeds per pack the students in one group found when they counted: 20, 21, 23, 20, 22, 20.

Find the group mean for the pumpkin seed packs. _____ pumpkin seeds

(2) Another group in Ms. Li's class added their pumpkin seed counts to the data set. Here is what they have all together: 20, 21, 23, 20, 22, 20, 23, 27, 28, 29, 28, 27.

Make a dot plot for the combined data.

Pumpkin Seed Treats

Find these landmarks for this data set.

Median: _____ Mode(s): _____ Mean: _____

(3) If Ms. Li brought these packs every day for 20 days of class, about how many seeds would each student receive?

_____

Try This

(4) If you were in charge of advertising these pumpkin seed packs, how many seeds would you advertise are in each pack? Why?

_____

Practice

(5) $4 * 12 =$ _____

(6) _____ $= 6 * 12$

(7) $15 * 5 =$ _____

(8) _____ $= 13 * 4$

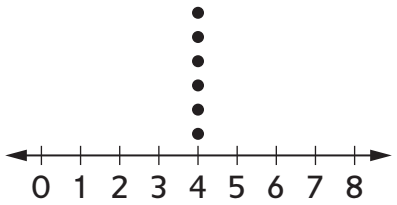
Balancing Movies

Home Link 1-4 SRB 285-286

NAME DATE TIME

Sandy asked six students how many movies they watched last month, and then graphed the results. The mean number of movies watched was 4.

Number of Movies Watched



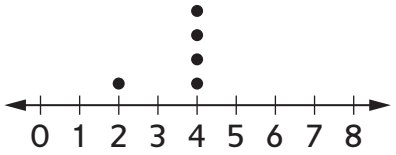
(1) How likely is it that Sandy's graph would look like the graph at the right? Explain.

_____

_____

Number of Movies Watched

(2) Suppose that five students answered as shown. How many movies did the sixth student watch? _____



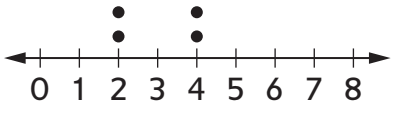
Plot the sixth point on the dot plot and explain how you know where to place it.

_____

Number of Movies Watched

(3) Suppose that four students answered as shown. How many movies could the last two students watch?

_____



Plot the last two points on the dot plot and explain how you know where to place them.

_____

Try This

Number of Movies Watched

(4) The data shown at the right is for four of six students surveyed. What two missing data points would make the mean 4?

_____

Plot the points on the dot plot.

Practice Solve.

(5) 46 ÷ 2 = _____ (6) 80 ÷ 5 = _____ (7) 68 ÷ 2 = _____

Measures of Center

Home Link 1-5

NAME DATE TIME

SRB 284-290

Math test scores (each out of 100 points) are shown below.

Mia's scores: 75, 75, 75, 85, 80, 95, 85, 90, 80, 80
Nico's scores: 55, 80, 90, 100, 70, 80, 50, 80, 75, 80

(1) Find the median and mean scores for each student.

Mia: Median _____ Mean _____

Nico: Median _____ Mean _____

(2) Which better represents each student's performance, the mean or median? Explain.

Mia: _____

_____

Nico: _____

_____

(3) In their class, a score in the 80s is a B and a score in the 70s is a C. If their teacher uses the medians of their test scores to calculate grades, Mia and Nico would get the same grade. If the teacher uses the mean, Mia would get a B and Nico would get a C.

Explain how Mia's and Nico's scores have the same median and different means.

_____

_____

_____

(4) If you were the teacher in Mia and Nico's class, would you use the median or the mean to calculate students' grades? Explain.

_____

_____

Practice Solve.

(5) $25 * 30 =$ _____

(6) _____ $= 16 * 400$

(7) $150 * 600 =$ _____

(8) _____ $= 90 * 130$

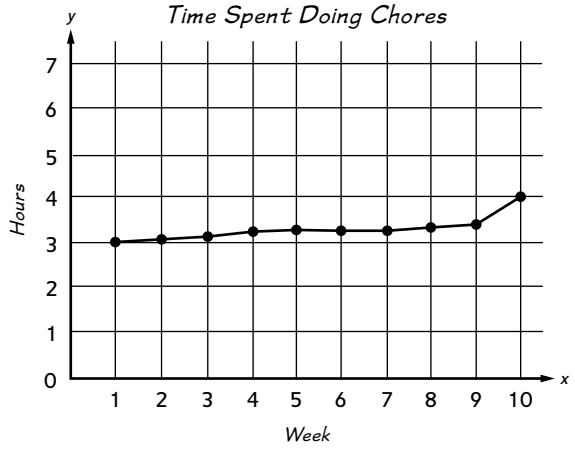
Analyzing Persuasive Graphs

Home Link 1-6

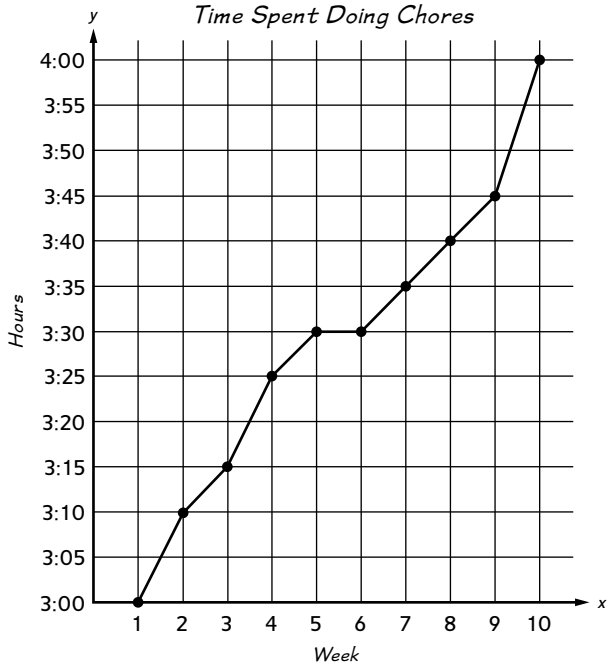
NAME DATE TIME

SRB 308

You are trying to convince your parents that you deserve an increase in your weekly allowance. You claim that during the past 10 weeks, the time you have spent doing jobs around the house (such as emptying the trash, mowing the lawn, and cleaning up after dinner) has increased. You have decided to present this information to your parents in the form of a graph. You have made two versions of the graph and need to decide which one to use.



Graph A



Graph B

1. How are Graph A and Graph B similar?

2. How are Graph A and Graph B different?

3. Which graph, A or B, do you think will help you more as you try to convince your parents that you deserve a raise in your allowance? Why?

Analyzing Persuasive Graphs (continued)

Home Link 1-6

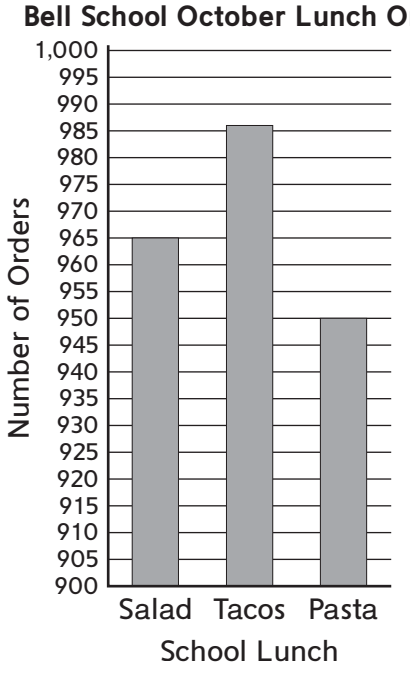
NAME DATE TIME

④ For the graph, describe what you plan to correct. Redraw the graph to give a more accurate picture of the data.

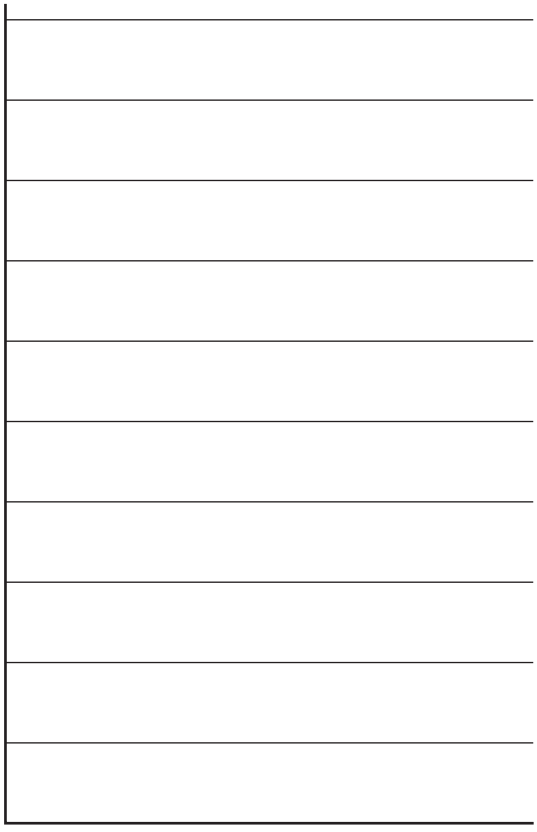
SRB 308

Correction(s): _____

Original Graph



My Corrected Version



Describe how your corrections changed what you see in the graph.

_____

_____

Practice

Solve.

⑤ $\frac{1}{12} + \frac{7}{12} =$ ____ ⑥ $\frac{3}{10} + \frac{7}{10} =$ ____ ⑦ $\frac{1}{8} + \frac{3}{8} =$ ____ ⑧ $1\frac{1}{2} + \frac{1}{2} =$ ____

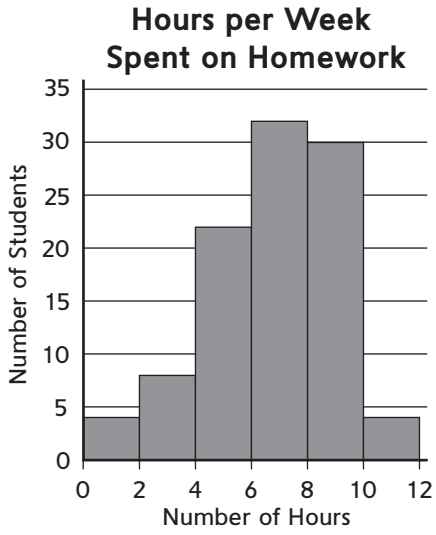
Exploring Bar Graphs and Histograms

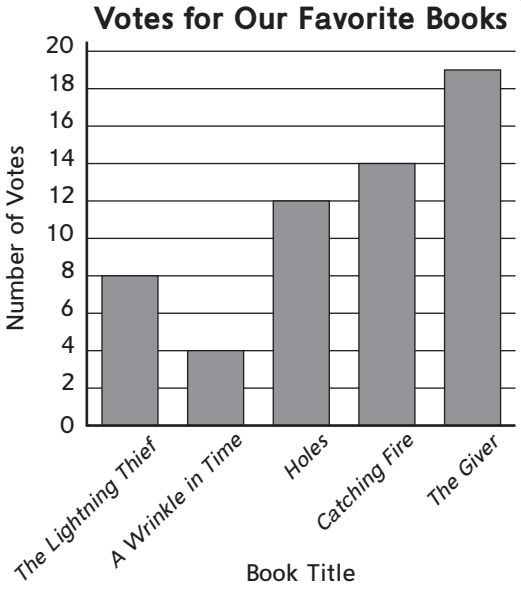
Home Link 1-7

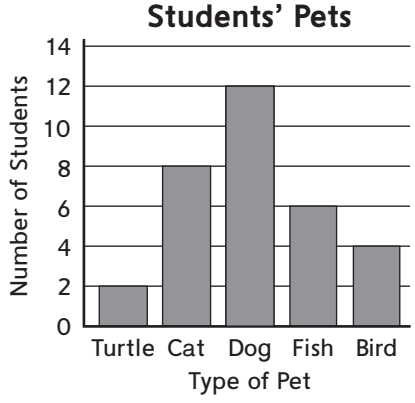
NAME DATE TIME

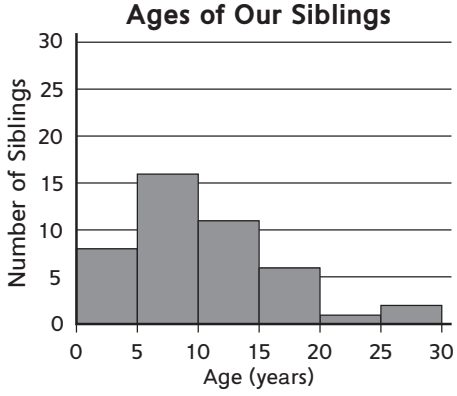
SRB 295-299

(1) Circle each graph that is a histogram.









(2) Pick one of the graphs above and list two different questions you could answer with the graph. Do not use the same kind of question twice (even about a different graph).

(3) Describe features of a graph that make it a histogram.

Exploring Bar Graphs and Histograms (continued)

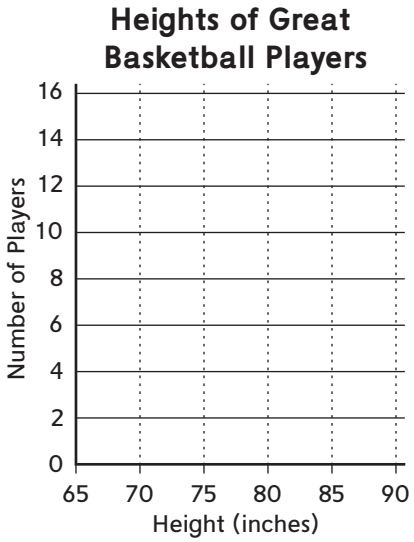
Home Link 1-7

NAME DATE TIME

④ The table below shows the heights of great basketball players in order from tallest to shortest.

Use the data to make a histogram.

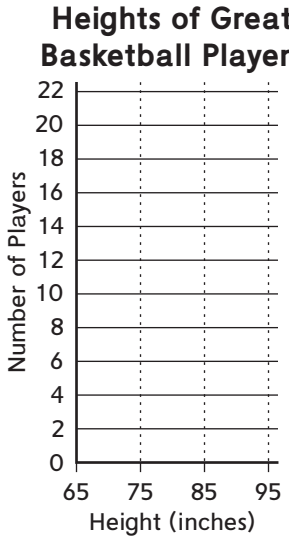
Heights of Great Basketball Players in Inches										
89	88	86	86	85	85	85	84	84	84	82
82	82	82	81	81	81	81	80	80	80	80
79	79	78	78	78	75	75	73	70	70	69



⑤ List at least two features of the histogram you made in Problem 4.

⑥ Make the histogram again with fewer bins.

⑦ Describe how the new bins show the information in the graph differently.



⑧ Why might you want to use one bin size instead of another to show data?

Practice

Solve.

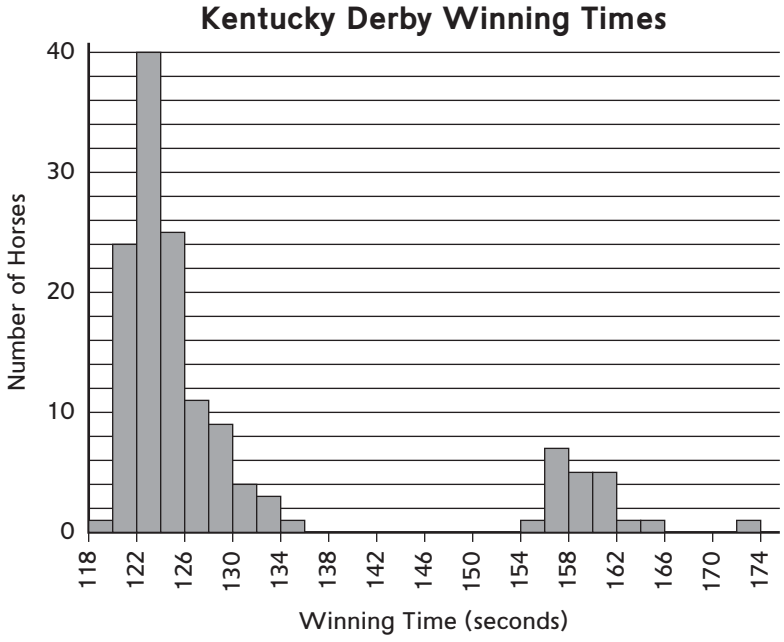
⑨ $\frac{7}{8} - \frac{3}{8} =$ _____ ⑩ $\frac{9}{10} - \frac{6}{10} =$ _____ ⑪ _____ $= \frac{4}{10} + \frac{6}{10}$

Kentucky Derby Winners

Home Link 1-8

NAME DATE TIME

Use the graph of Kentucky Derby winners' times for the problems below.



SRB 305-307

(1) Describe the shape of this graph.

(2) Explain why the graph for this data set might have this shape.

(3) Draw a line on the graph approximately where you think the mean is. Approximately where are the median and the mode compared to the mean?

Try This

(4) Research and describe why the graph of Kentucky Derby winning times is this shape.

Practice Solve.

(5) _____ * 50 = 350 (6) 60 * 40 = _____ (7) 3,600 = 90 * _____

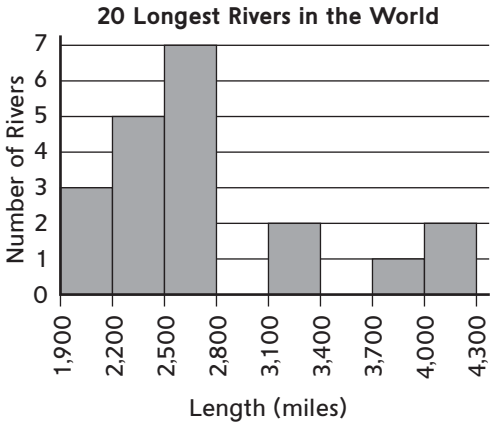
Exploring Histograms

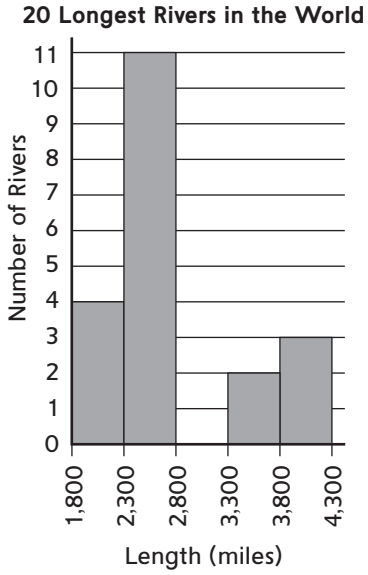
Home Link 1-9

NAME DATE TIME

SRB 303-307

Here are two histograms representing the lengths of the 20 longest rivers in the world.





(1) Describe how the shapes of the graphs are different.

(2) These histograms represent the same set of data. Why do they look different?

(3) **a.** Based on the graphs, what is the largest the range can be? _____

b. Explain how you figured out the largest possible range.

(4) **a.** Estimate the median for the lengths of the 20 longest rivers.

b. Explain how you estimated the median.

Plotting Numbers

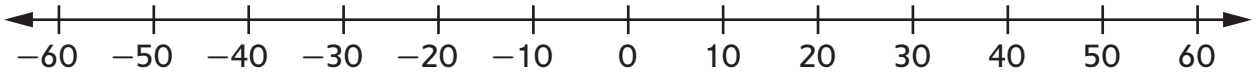
Home Link 1-10

NAME DATE TIME

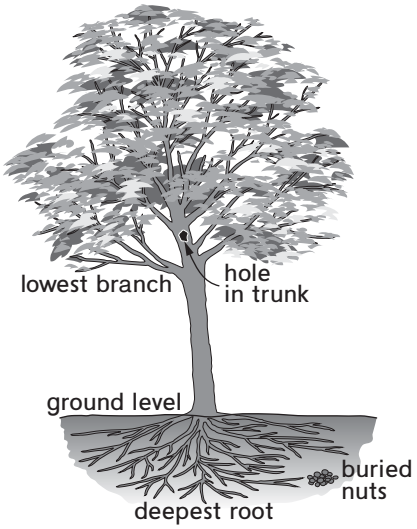
(1) Here is a list by month for the record low temperatures in Minneapolis, MN. Plot the letters for the temperatures on the number line below.

SRB 94

A:	January, −57°F	*E*:	May, 4°F	*I*:	September, 10°F
B:	February, −60°F	*F*:	June, 15°F	*J*:	October, −16°F
C:	March, −50°F	*G*:	July, 24°F	*K*:	November, −45°F
D:	April, −22°F	*H*:	August, 21°F	*L*:	December, −57°F



(2) A tree has a trunk, branches, and leaves above ground (positive) and roots below ground (negative). Represent each height as a point on the number line.



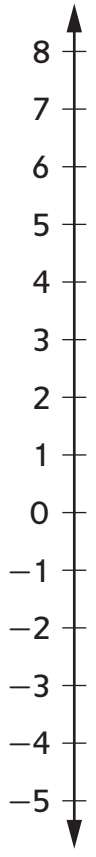
M: Lowest branch at 6 feet

N: Deepest root at 5 feet

P: Hole in trunk at 8 feet

Q: Ground level

R: Buried nuts at 3 feet



Practice

Solve.

(3) $0.40 * 5 = _____

(4) $1.50 * 3 = _____

Fractions on a Number Line

Home Link 1-11

NAME DATE TIME

SRB 91, 94

① Find three rational numbers between each of the pairs of numbers below.

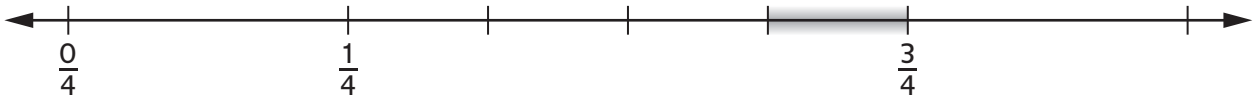
a. $\frac{1}{3}$ and $\frac{5}{6}$ _____ **b.** $\frac{1}{3}$ and $\frac{1}{5}$ _____

② **a.** Label the points on the number line.

_____ _____

b. Find two fractions in the highlighted section of the number line. _____

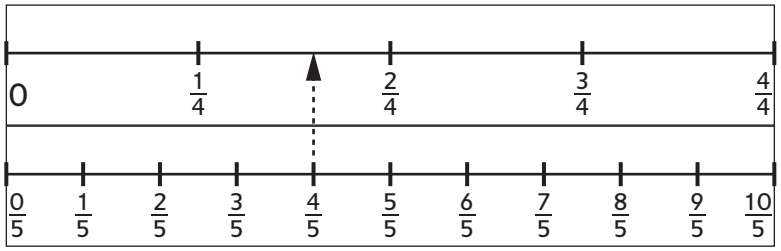
③ **a.** Fill in the missing labels on the number line.



_____ _____ _____ _____

b. Find one fraction in the highlighted section of the number line. _____

④ Nadjia created fraction strips to determine that $\frac{4}{5}$ is smaller than $\frac{3}{4}$.
Here is a sketch of her strips and how she lined them up. What mistake did she make?



_____

_____

Practice

Solve.

⑤ $\frac{3}{4} = \frac{\square}{16}$ ⑥ $\frac{18}{20} = \frac{\square}{10}$ ⑦ $\frac{\square}{7} = \frac{15}{21}$

Zooming In on the Number Line

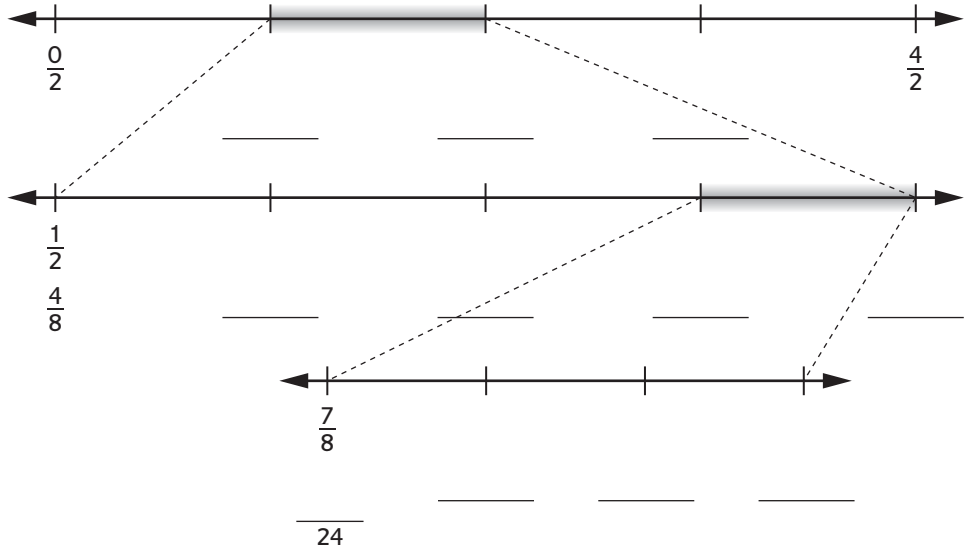
Home Link 1-12

NAME DATE TIME

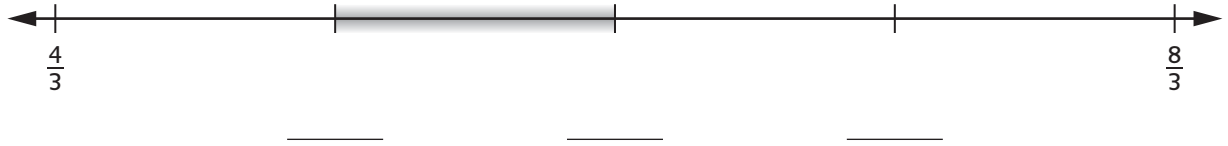
(1) Maggie says there are no fractions between $\frac{1}{4}$ and $\frac{1}{3}$. Provide an example for Maggie and explain why you can always find another example.

SRB 169-170

(2) One way to find fractions in between two fractions is to imagine zooming in on the number line. Insert the missing numbers for the number lines below.



(3) Insert the missing numbers on the number line.



List at least three fractions that are in the highlighted section of the number line.

_____

Practice

Write an equivalent fraction.

(4) $4\frac{1}{3}$ _____ (5) $5\frac{2}{q}$ _____ (6) $2\frac{5}{6}$ _____

Negative Numbers on a Number Line

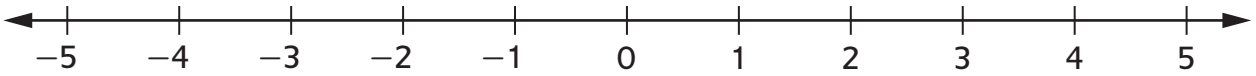
Home Link 1-13

NAME DATE TIME

SRB 90-91, 94

(1) Plot the following points.

A: $-1\frac{3}{4}$ *B*: $4\frac{1}{6}$ *C*: 0 *D*: $\frac{4}{5}$ *E*: -3 *F*: $3\frac{2}{3}$ *G*: $-\frac{2}{3}$



(2) **a.** On the vertical number line, label the topmost and bottommost tick marks as -4 and -5. Label the topmost tick mark with the greater value.

b. Plot and label the following points as accurately as you can. $-4\frac{1}{2}$, $-4\frac{1}{3}$, $-4\frac{2}{3}$, $-4\frac{1}{4}$, $-4\frac{2}{4}$, $-4\frac{3}{4}$, $-4\frac{1}{6}$, $-4\frac{2}{6}$, $-4\frac{3}{6}$, $-4\frac{4}{6}$, $-4\frac{5}{6}$

(3) Of the points you plotted on the number line in Problem 2b, which has the greatest value? _____

Which has the least value? _____

(4) How can you use a number line to compare values?

_____

_____

For Problems 5–6, you may draw a number line to help you.

(5) Write two numbers that fit each description.

a. Between -1 and -2 _____

b. Less than -3 _____

(6) Write the opposite of each number.

a. -4 _____ **b.** $2\frac{1}{2}$ _____ **c.** $-\frac{3}{4}$ _____

Practice

Write the first three multiples of each number.

(7) 9 _____ (8) 7 _____ (9) 21 _____

Plotting Points on a Coordinate Grid

Home Link 1-14

NAME DATE TIME

SRB 95-96

1. Plot the following points on the coordinate grid. Label each with its letter.

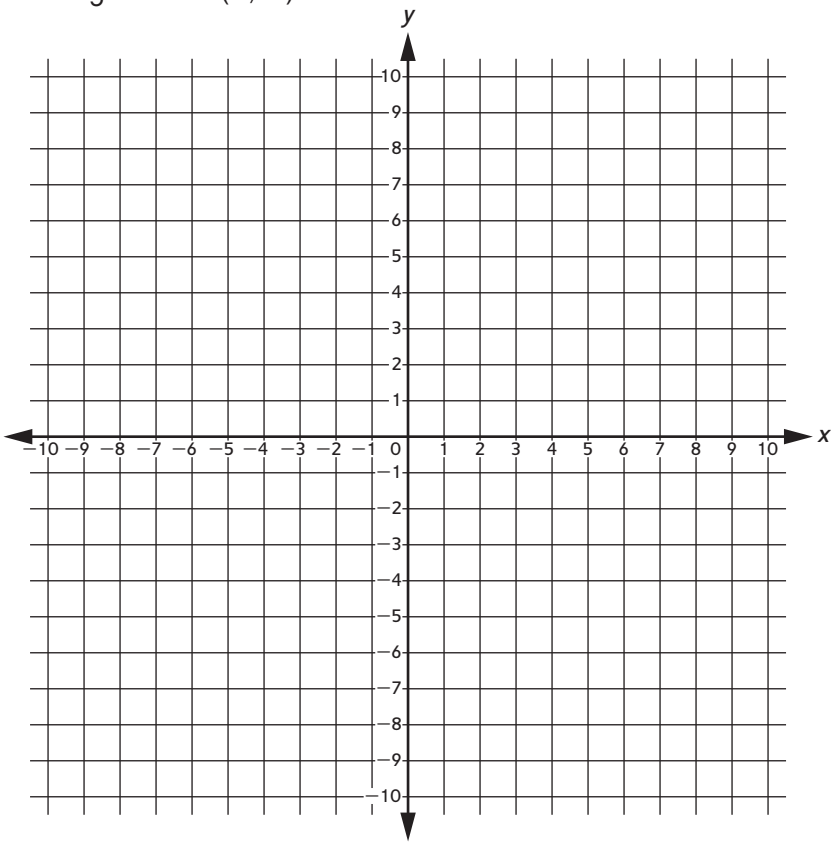
   A: School: (8, 0) *B*: Library: (8, 5) *C*: Park: (1, −3)

   D: Grocery store: (−4, −2) *E*: My house: (6, 3)

   F: Post office: (1, 9)

   G: Bank: (−5, 7)

   H: Friend's house: (−4, 3)



2. You walk a straight line from your house to your friend's house. Plot the point that is halfway between the two houses. Label this point *M*.

   Write the ordered pair for point *M*. _____

3. Plot and label two points on the coordinate grid. Place your points in different quadrants.

   Letter: _____ Location: _____ Ordered pair: _____

   Letter: _____ Location: _____ Ordered pair: _____

4. Explain how to plot the point (−3, 5).

   _____

   _____

Practice

List all of the factors.

5. 14 _____

6. 20 _____

7. 17 _____

8. 32 _____