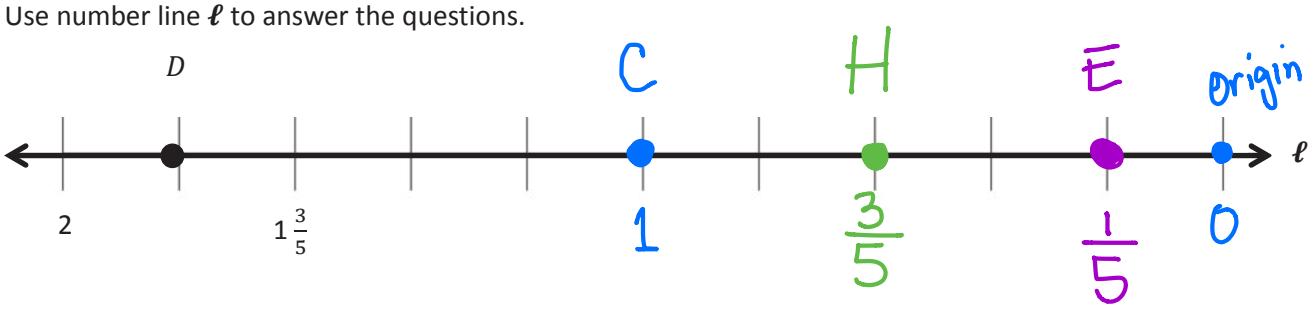
Name _____ Date _____

Use number line ℓ to answer the questions.



a. Plot point C so that its distance from the origin is 1.

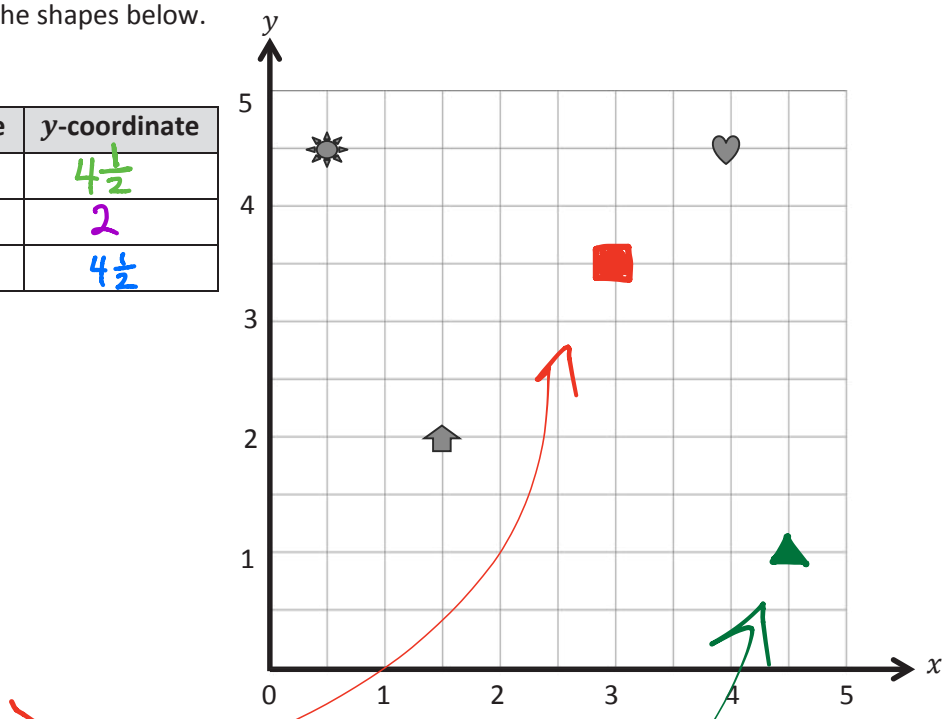
b. Plot point E $\frac{4}{5}$ closer to the origin than C. What is its coordinate? $\frac{1}{5}$

c. Plot a point at the midpoint of C and E. Label it H.

Name _____ Date _____

1. Name the coordinates of the shapes below.

Shape	x-coordinate	y-coordinate
Sun	$\frac{1}{2}$	$4\frac{1}{2}$
Arrow	$1\frac{1}{2}$	2
Heart	4	$4\frac{1}{2}$

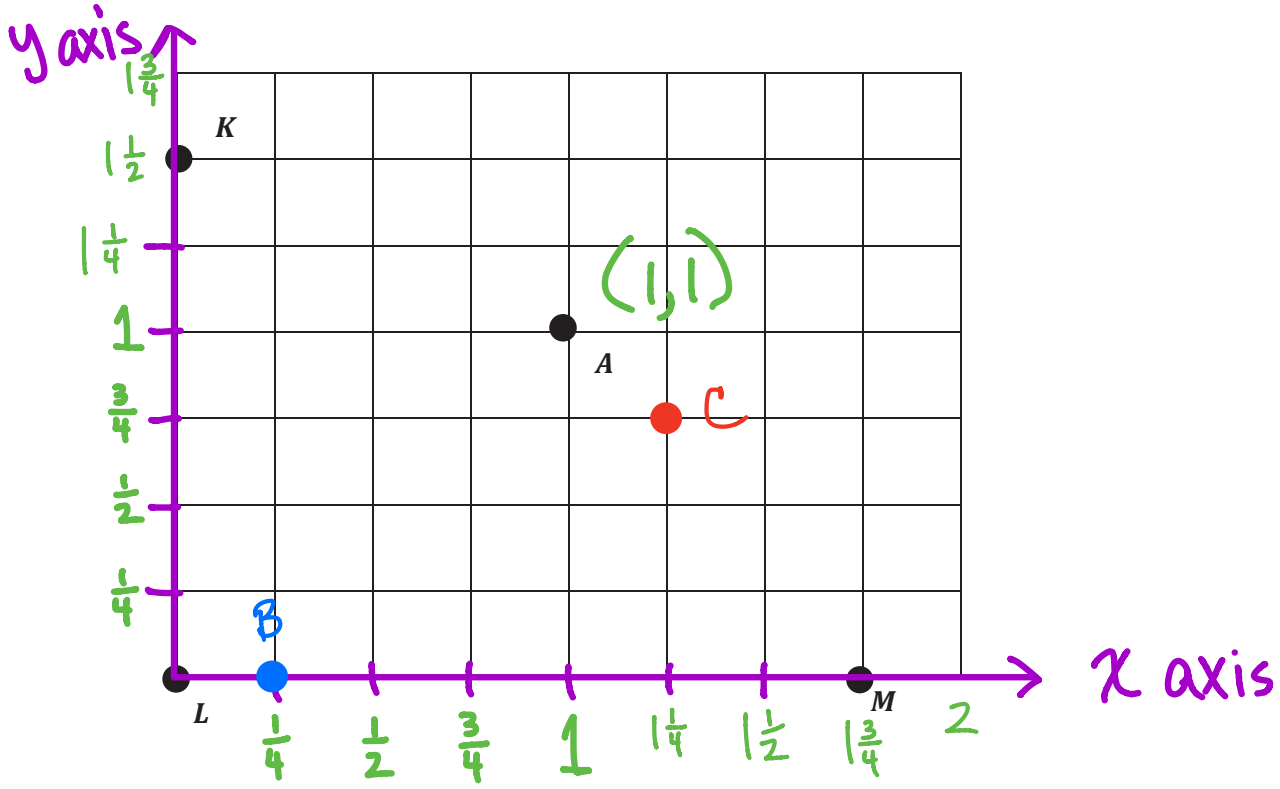


2. Plot a square at $(3, 3\frac{1}{2})$.

3. Plot a triangle at $(4\frac{1}{2}, 1)$.

Name _____ Date _____

Use a ruler on the grid below to construct the axes for a coordinate plane. The x-axis should intersect points L and M. Construct the y-axis so that it contains points K and L. Label each axis.



a. Place a hash mark on each grid line on the x- and y-axis.

b. Label each hash mark so that A is located at (1, 1).

Students can use either $\frac{1}{2}$ or $\frac{2}{4}$. No need to simplify.

c. Plot the following points:

Point	x-coordinate	y-coordinate
B	$\frac{1}{4}$	0
C	$1\frac{1}{4}$	$\frac{3}{4}$

Name _____ Date _____

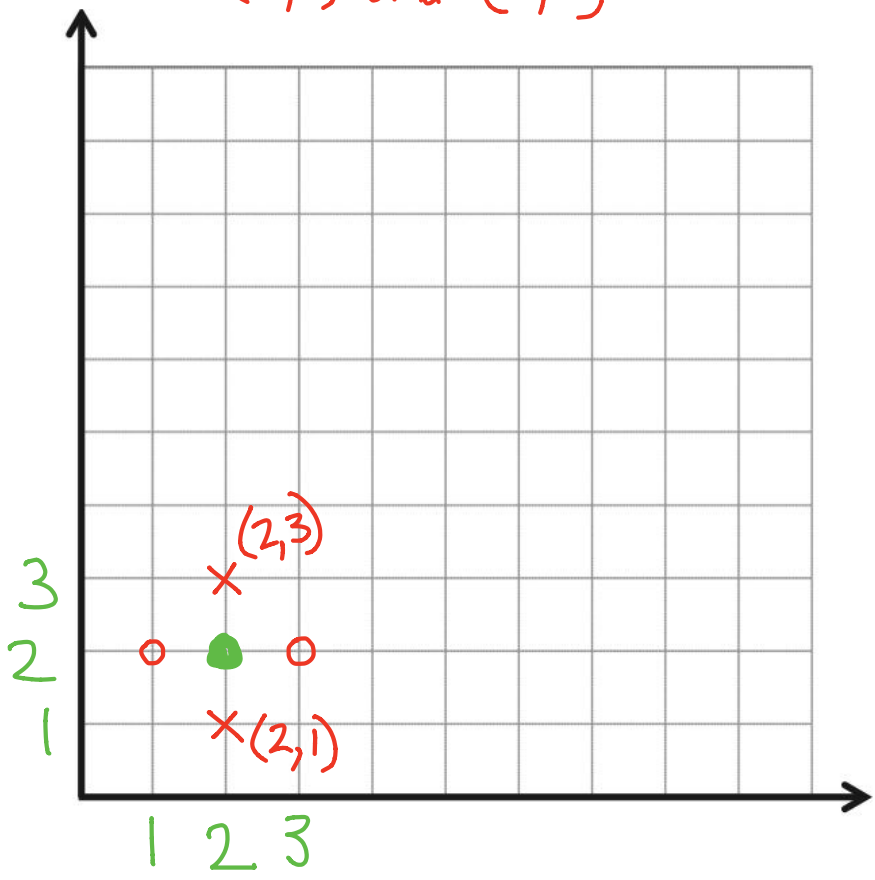
Fatima and Rihana are playing Battleship. They labeled their axes using just whole numbers.

a. Fatima's first guess is (2, 2). Rihana says, "Hit!" Give the coordinates of four points that Fatima might guess next.

(1,2), (3,2), (2,1), (2,3)

b. Rihana says, "Hit!" for the points directly above and below (2, 2). What are the coordinates that Fatima guessed?

(2,1) and (2,3)



Name _____ Date _____

1. Use a straightedge to construct a line that goes through points A and B. Label the line ℓ.

2. Which axis is parallel to line ℓ? y axis

   Which axis is perpendicular to line ℓ? x axis

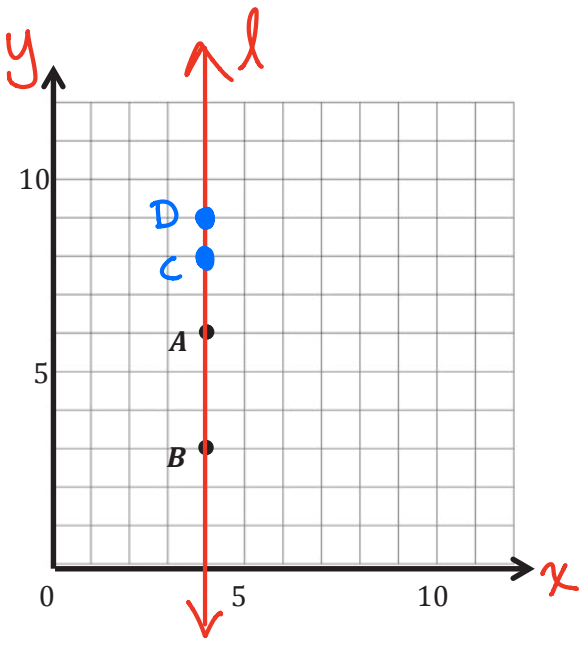
3. Plot two more points on line ℓ. Name them C and D.

   Answers will vary.

4. Give the coordinates of each point below.

   A: (4,6) B: (4,3)

   C: (4,8) D: (4,9)



5. Give the coordinates of another point that falls on line ℓ with a y-coordinate greater than 20.

(4, 36)

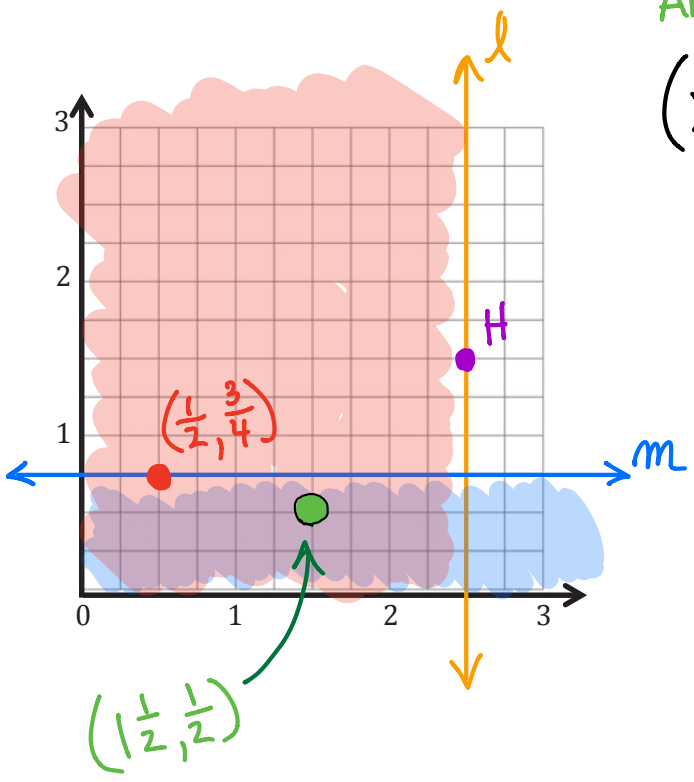
The x-coordinate must be 4. The y coordinate can be any value larger than 20.

Name _____ Date _____

1. Plot the point H $(2\frac{1}{2}, 1\frac{1}{2})$.
2. Line ℓ passes through point H and is parallel to the y-axis. Construct line ℓ.
3. Construct line m such that the y-coordinate of every point is $\frac{3}{4}$.
4. Line m is $\frac{3}{4}$ units from the x-axis.
5. Give the coordinates of the point on line m that is $\frac{1}{2}$ unit from the y-axis.
6. With a blue pencil, shade the portion of the plane that is less than $\frac{3}{4}$ unit from the x-axis.
7. With a red pencil, shade the portion of the plane that is less than $2\frac{1}{2}$ units from the y-axis.
8. Plot a point that lies in the double-shaded region. Give the coordinates of the point.

Answers will vary.

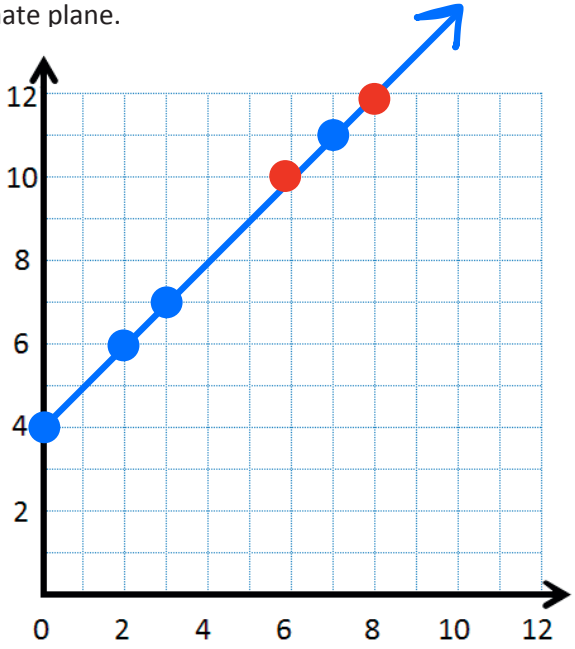
$(x < 2\frac{1}{2}, y < \frac{3}{4})$



Name _____ Date _____

Complete the chart. Then, plot the points on the coordinate plane.

x	y	(x, y)
0	4	(0,4)
2	6	(2,6)
3	7	(3,7)
7	11	(7,11)



1. Use a straightedge to draw a line connecting these points.

2. Write a rule to show the relationship between the x- and y-coordinates for points on the line.

   X+4=Y

3. Name two other points that are also on this line.

   (6,10) (8,12)

Answers will vary.

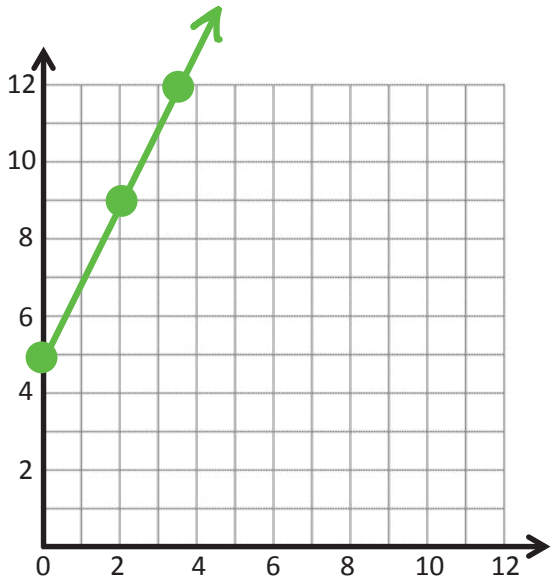
Any x and y values as long as y is 4 more than x.

For example, (23,27).

Name _____ Date _____

Complete this table with values for y such that each y-coordinate is 5 more than 2 times as much as its corresponding x-coordinate.

x	y	(x, y)
0	5	(0,5)
2	9	(2,9)
3.5	12	(3.5,12)



a. Plot each point on the coordinate plane.

b. Use a straightedge to draw a line connecting these points.

c. Name 2 other points that fall on this line with y-coordinates greater than 25.

Answers will vary. (15,35) and (12,29) are two examples.

x	y	(x,y)
15	35	(15,35)
12	29	(12,29)

Name _____ Date _____

Complete the table for the given rules. Then, construct lines ℓ and m on the coordinate plane.

Line ℓ

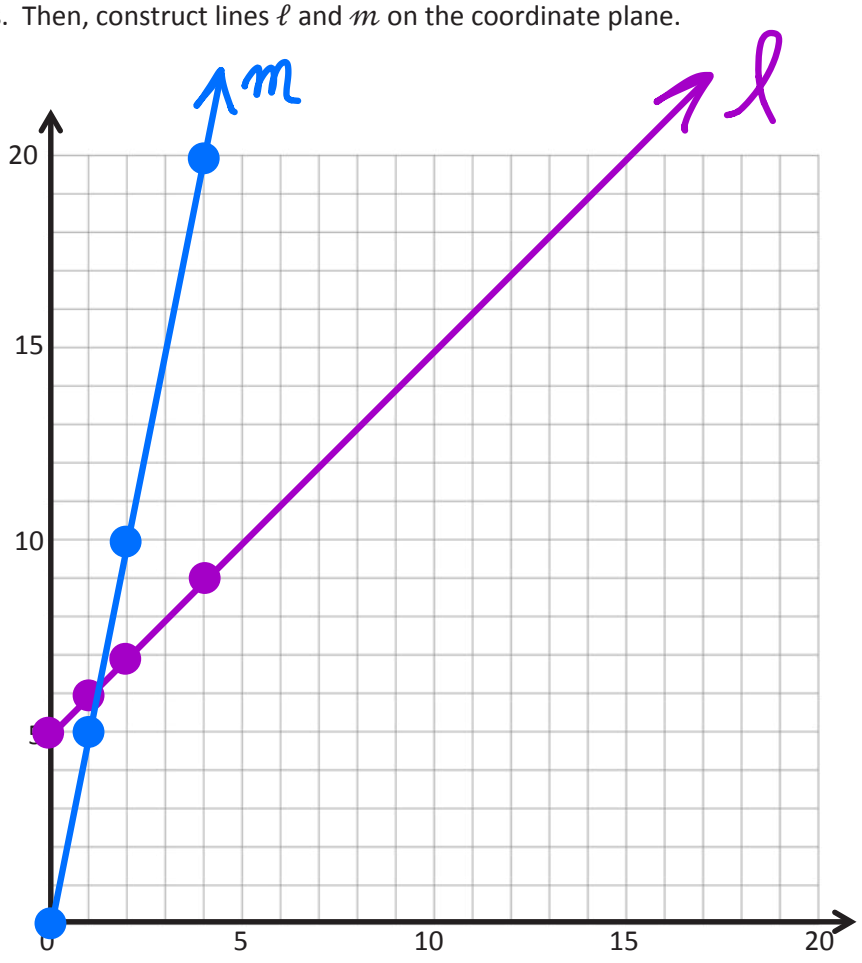
Rule: y is 5 more than x

x	y	(x, y)
0	5	(0,5)
1	6	(1,6)
2	7	(2,7)
4	9	(4,9)

Line m

Rule: y is 5 times as much as x

x	y	(x, y)
0	0	(0,0)
1	5	(1,5)
2	10	(2,10)
4	20	(4,20)



Name _____ Date _____

Use the coordinate plane below to complete the following tasks.

a. Line p represents the rule *x and y are equal*.

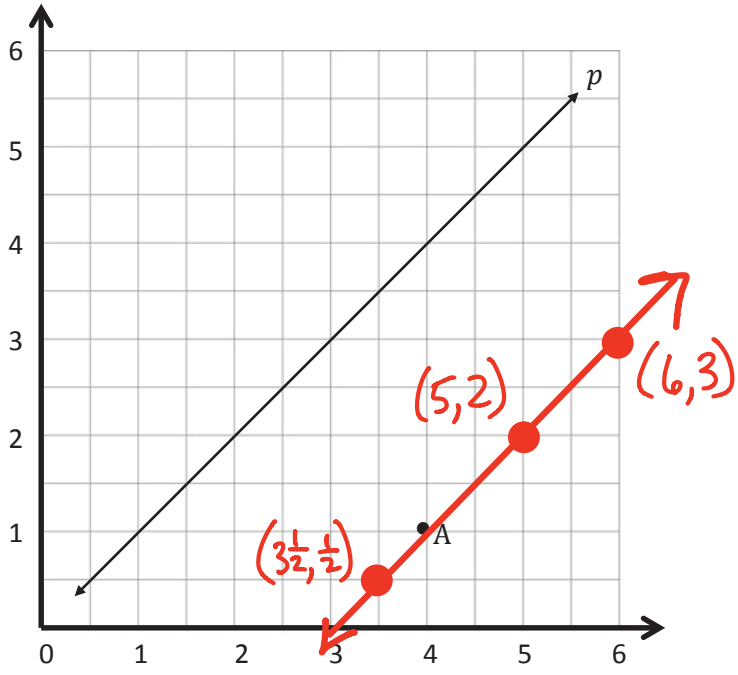
b. Construct a line, a, that is parallel to line p and contains point A.

c. Name 3 points on line a.

$(3\frac{1}{2}, \frac{1}{2})$ $(5,2)$ $(6,3)$

d. Identify a rule to describe line a.

Subtract 3 from x to get y.



Answers will vary, but y should always be 3 less than x.

Descriptions may vary.

Ex. $x-3=y$

or

$x=y+3$

Name _____ Date _____

1. Complete the tables for the given rules.

Line ℓ

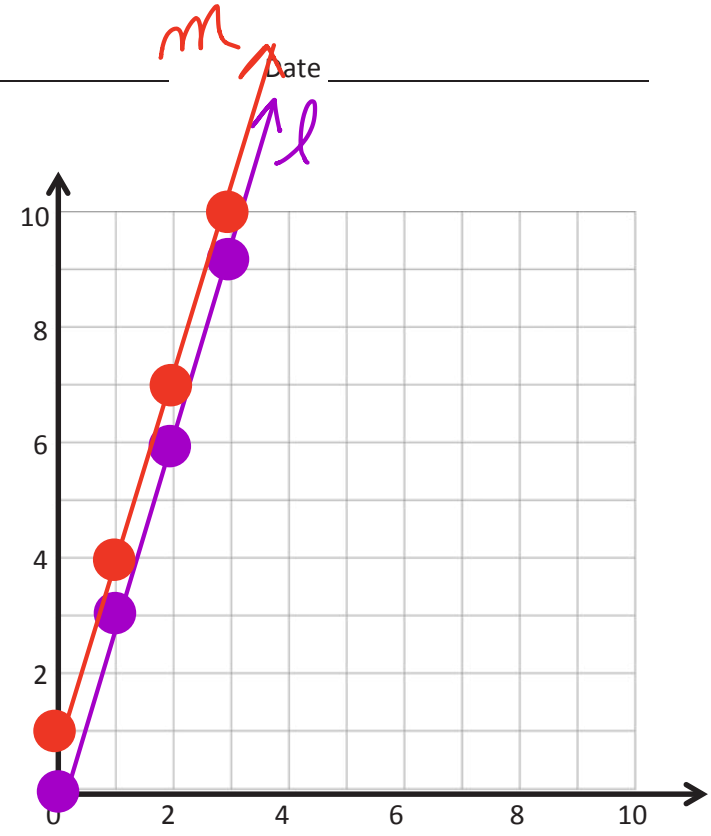
Rule: *Triple x*

x	y	(x, y)
0	0	(0,0)
1	3	(1,3)
2	6	(2,6)
3	9	(3,9)

Line m

Rule: *Triple x, and then add 1*

x	y	(x, y)
0	1	(0,1)
1	4	(1,4)
2	7	(2,7)
3	10	(3,10)



a. Draw each line on the coordinate plane above.

b. Compare and contrast these lines.

The lines are the same except m has been shifted up 1 space.

2. Circle the point(s) that the line for the rule *multiply x by* $\frac{1}{3}$*, and then add 1* would contain.

$(0, \frac{1}{2})$ $(1, 1\frac{1}{3})$ $(2, 1\frac{2}{3})$ $(3, 2\frac{1}{2})$

$1 \times \frac{1}{3} = \frac{1}{3}$ $\quad \frac{1}{3} + 1 = 1\frac{1}{3}$

$2 \times \frac{1}{3} = \frac{2}{3}$ $\quad \frac{2}{3} + 1 = 1\frac{2}{3}$

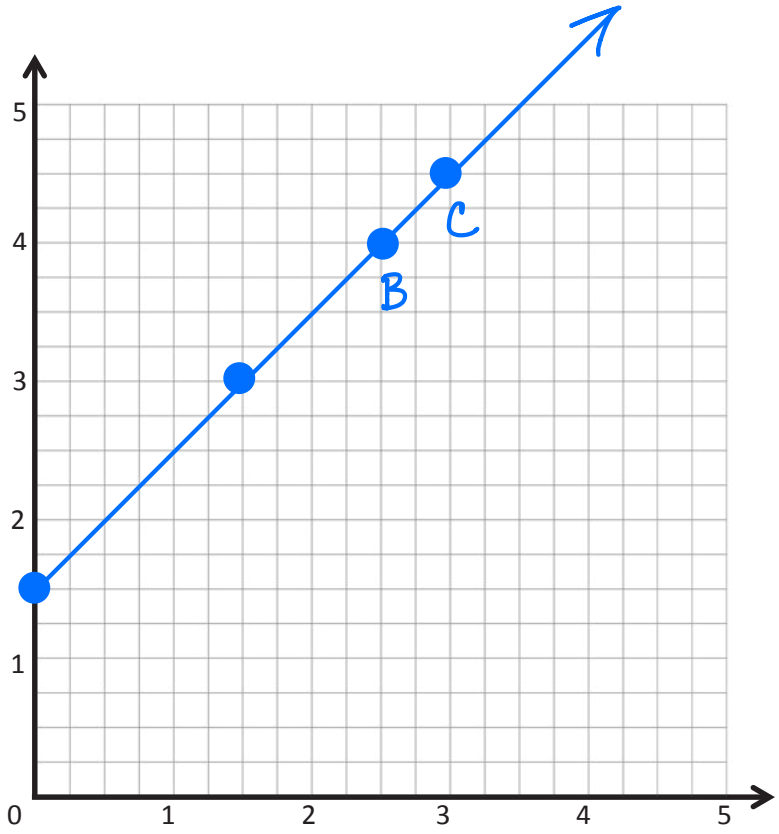
Name _____ Date _____

Write the rule for the line that contains the points $(0, 1\frac{1}{2})$ and $(1\frac{1}{2}, 3)$.

Add $1\frac{1}{2}$ to x.

a. Identify 2 more points on this line. Draw the line on the grid.

Point	x	y	(x, y)
B	$2\frac{1}{2}$	4	$(2\frac{1}{2}, 4)$
C	3	$4\frac{1}{2}$	$(3, 4\frac{1}{2})$



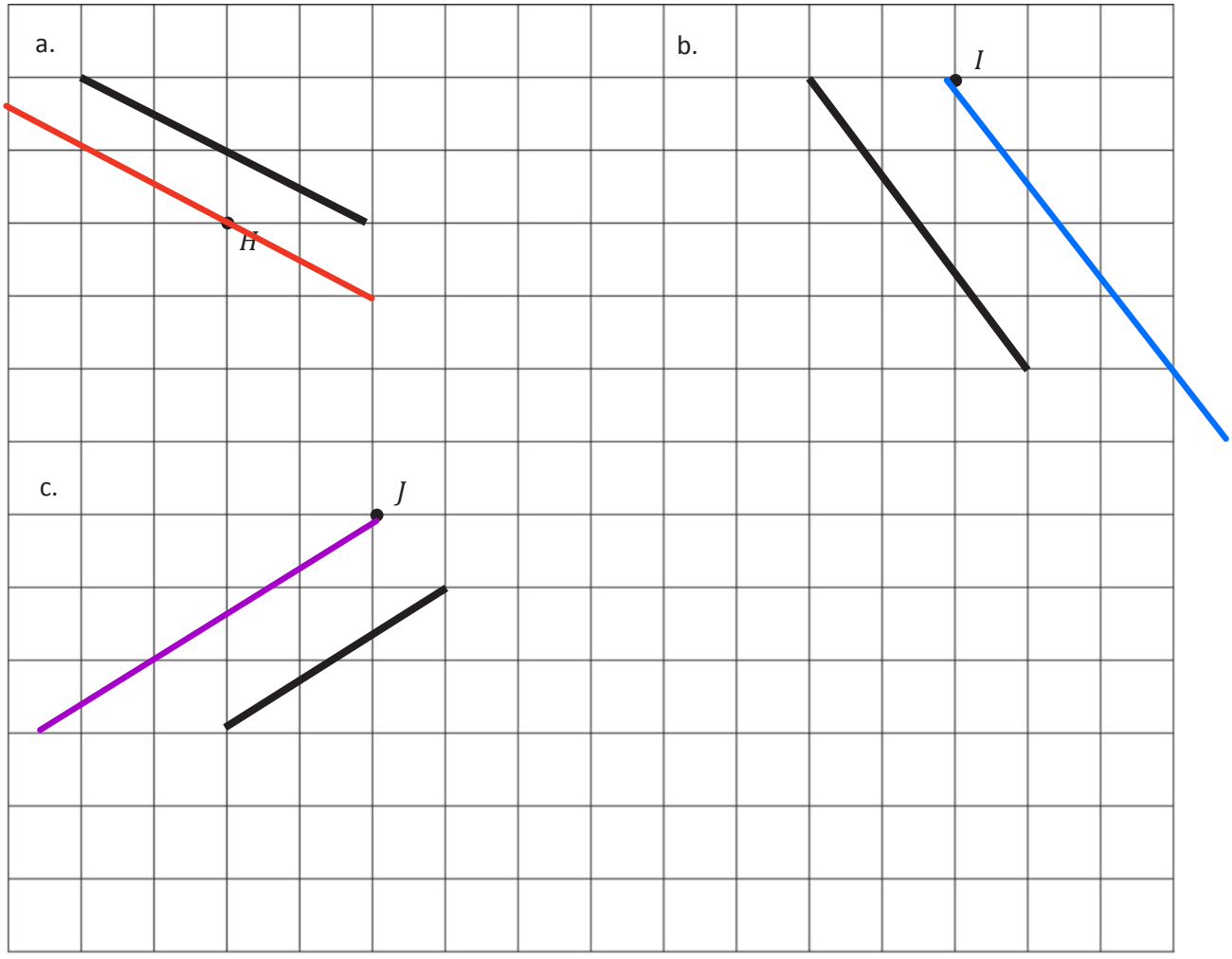
b. Write a rule for a line that is parallel to $\overleftrightarrow{BC}$ and goes through point $(1, \frac{1}{2})$.

Subtract $\frac{1}{2}$ from x

Answers may vary.

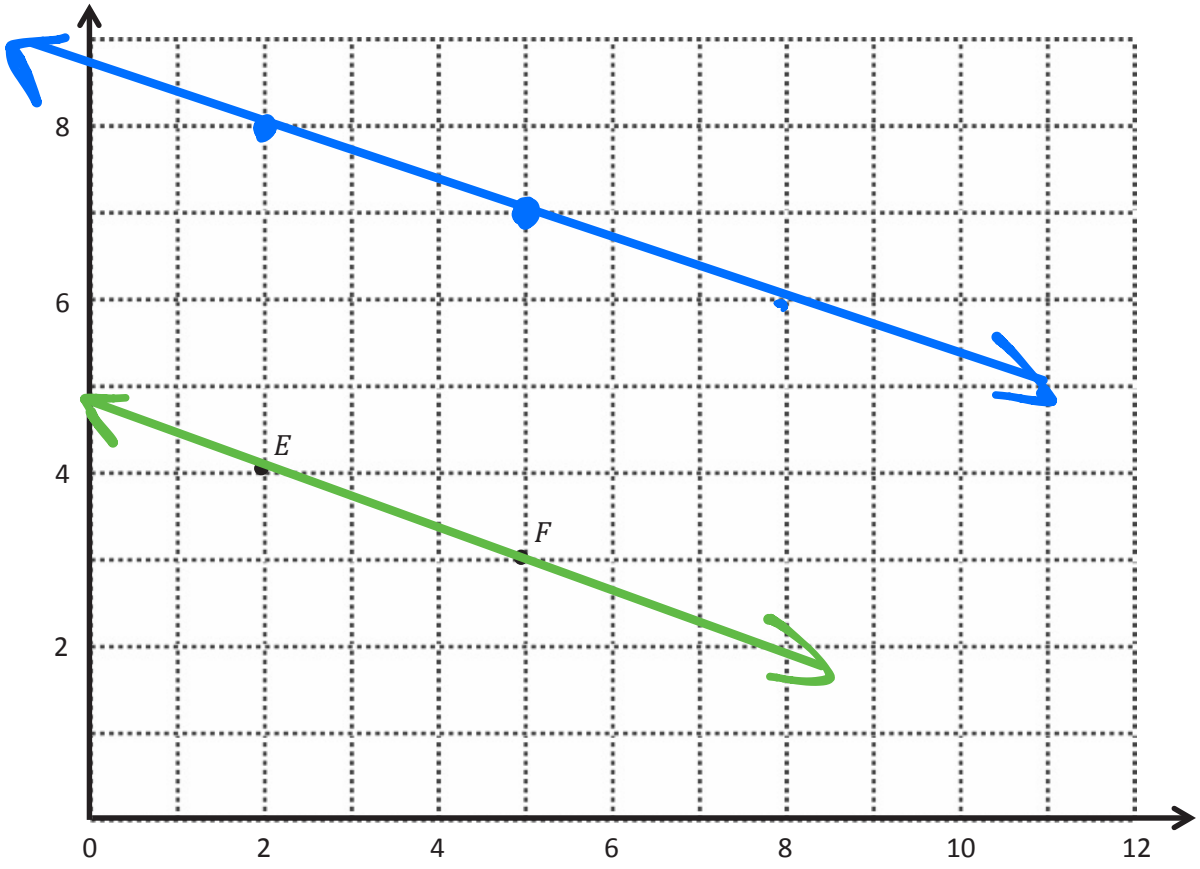
Name _____ Date _____

Use your straightedge to draw a segment parallel to each segment through the given point.



Name _____ Date _____

Use the coordinate plane below to complete the following tasks.



a. Identify the locations of E and F. E: (2, 4) F: (5, 3)

b. Draw $\overleftrightarrow{EF}$.

c. Generate coordinate pairs for L and M, such that $\overleftrightarrow{EF} \parallel \overleftrightarrow{LM}$.

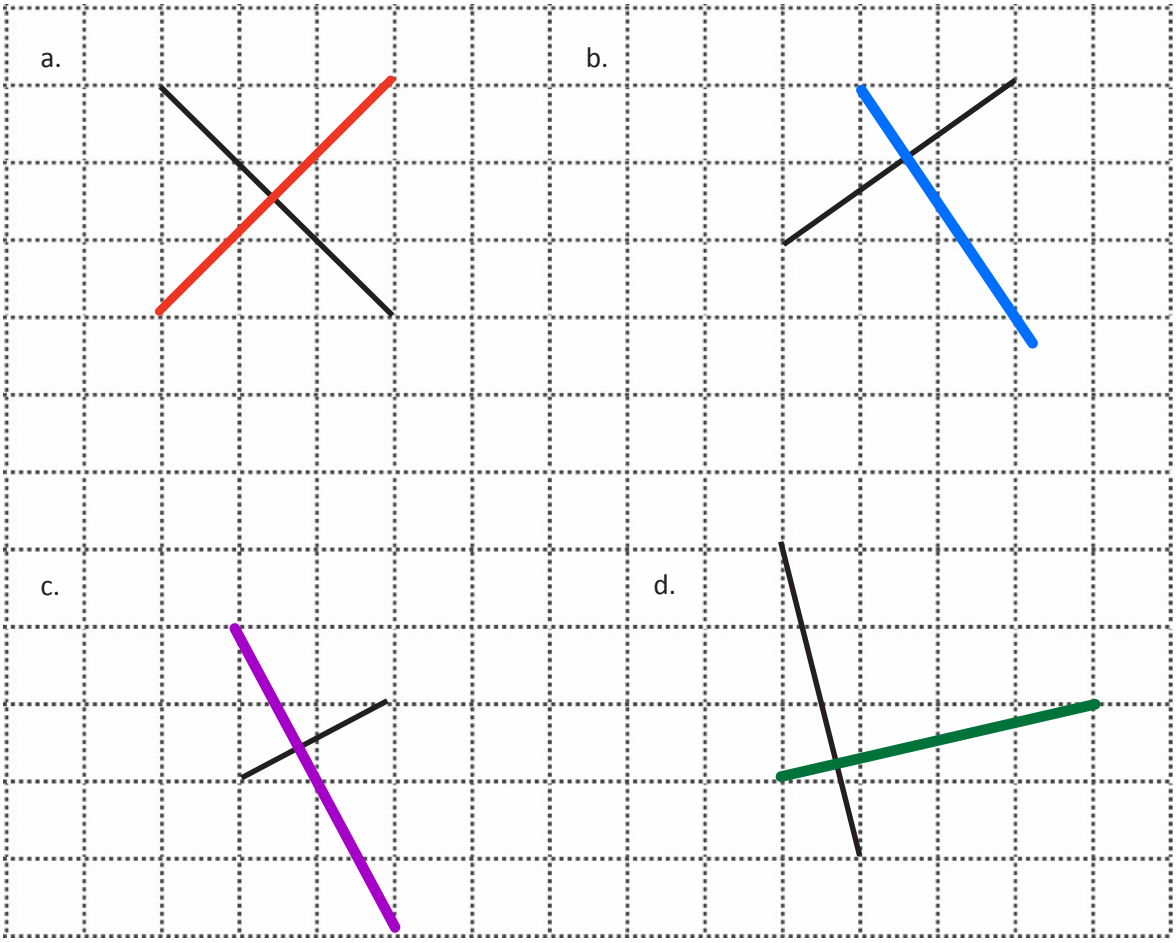
L: (2, 8) M: (5, 7)

d. Draw $\overleftrightarrow{LM}$.

Answers will vary

Name _____ Date _____

Draw a segment perpendicular to each given segment. Show your thinking by sketching triangles as needed.



Name _____ Date _____

Use the coordinate plane below to complete the following tasks.

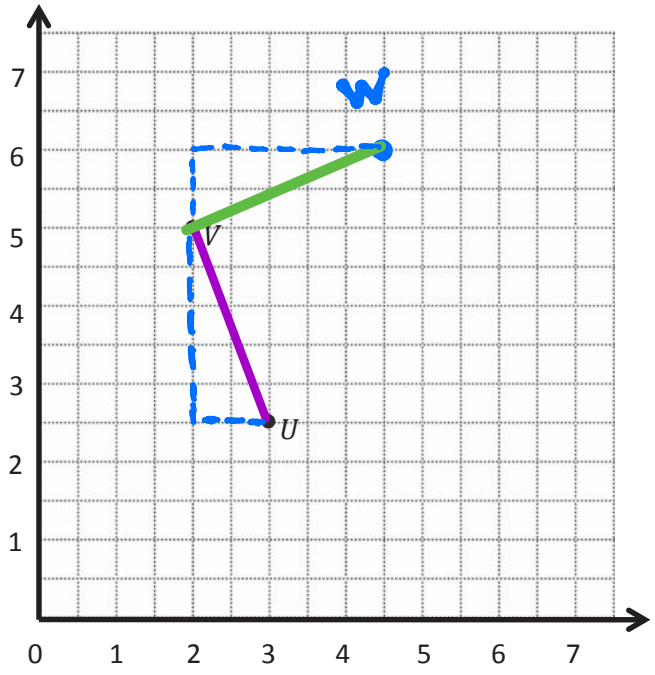
a. Draw $\overline{UV}$.

b. Plot point $W\left(4\frac{1}{2}, 6\right)$.

c. Draw $\overline{VW}$.

d. Explain how you know that $\angle UVW$ is a right angle without measuring it.

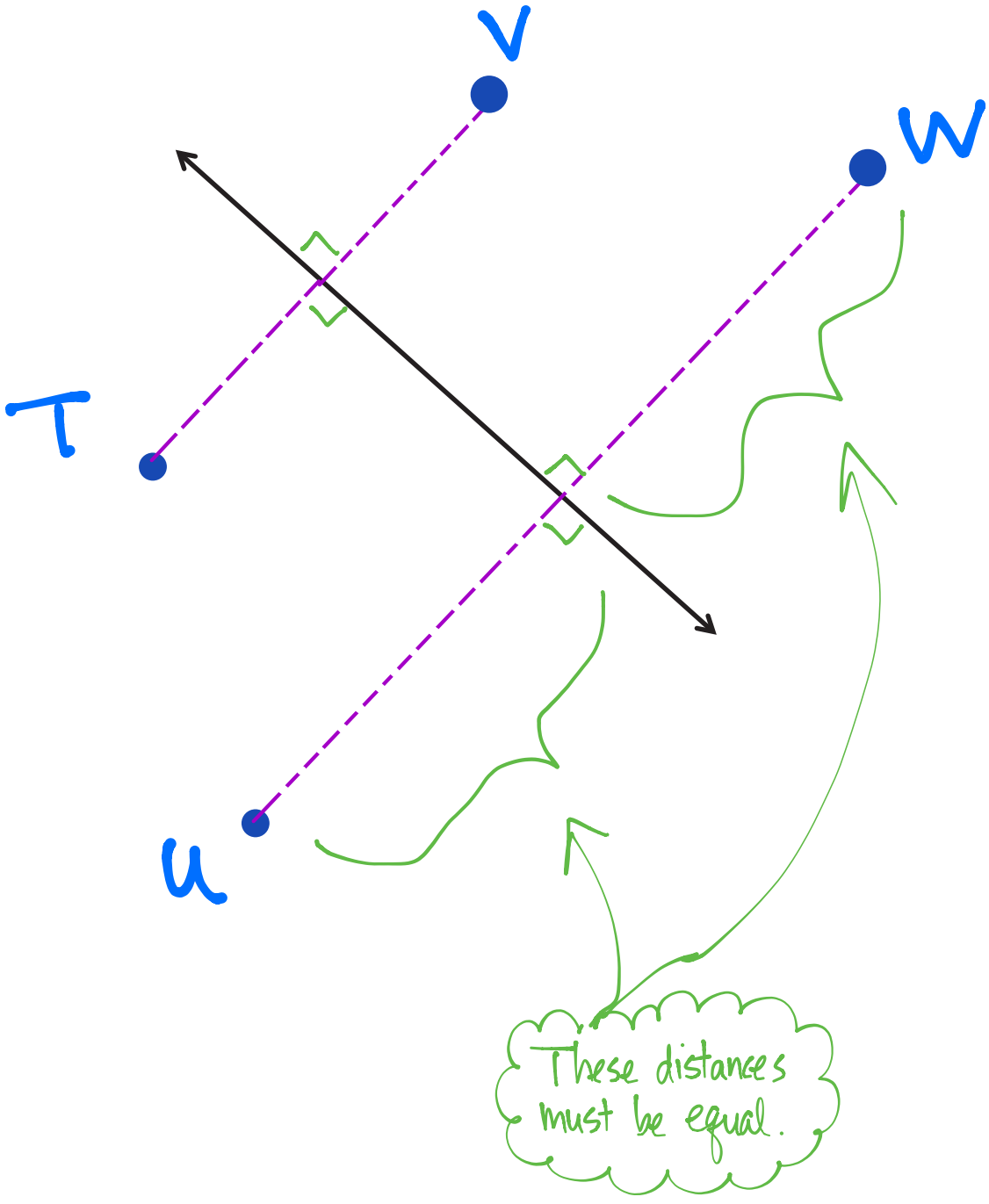
We know the two lines form a right angle because the lines form two triangles that are both 5 by 2, except they are rotated. The two acute angles have a sum of 90°.



Name _____ Date _____

1. Draw 2 points on one side of the line below, and label them T and U.

2. Use your set square and ruler to draw symmetrical points about your line that correspond to T and U, and label them V and W.



Name _____ Date _____

Kenny plotted the following pairs of points and said they made a symmetric figure about a line with the rule:

y is always 4.

(3, 2) and (3, 6)

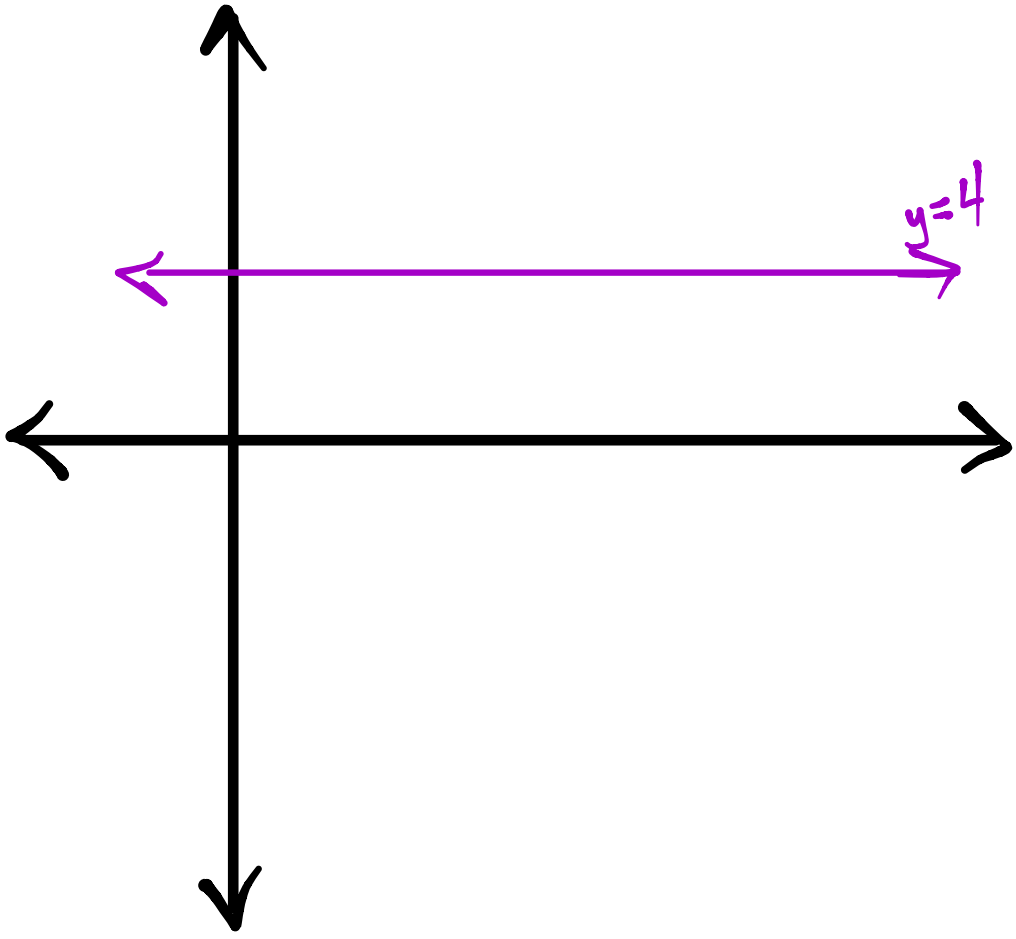
(4, 3) and (5, 5)

(5, $\frac{3}{4}$) and (5, $7\frac{1}{4}$)

(7, $1\frac{1}{2}$) and (7, $6\frac{1}{2}$)

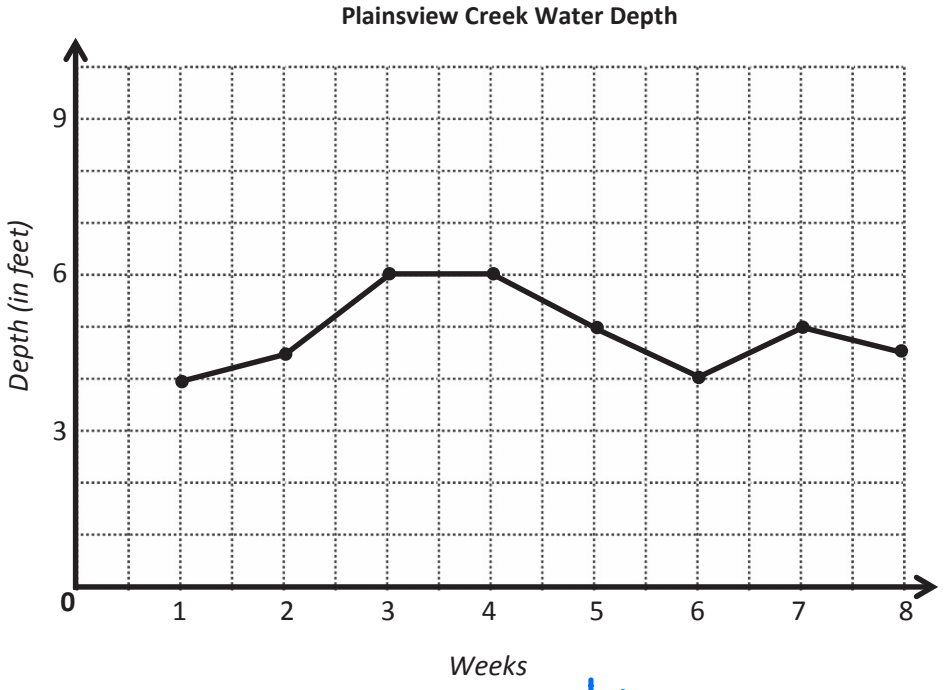
We know the figure is not symmetric because this pair of points do not have the same X coordinate.

Is his figure symmetrical about the line? How do you know?



Name _____ Date _____

The line graph below tracks the water level of Plainsview Creek, measured each Sunday, for 8 weeks. Use the information in the graph to answer the questions that follow.



a. About how many feet deep was the creek in Week 1? 4

b. According to the graph, which week had the greatest change in water depth? 3

c. It rained hard throughout the sixth week. During what other weeks might it have rained? Explain why you think so.

It rained hard during Week 2 because that is where we see the line go up.

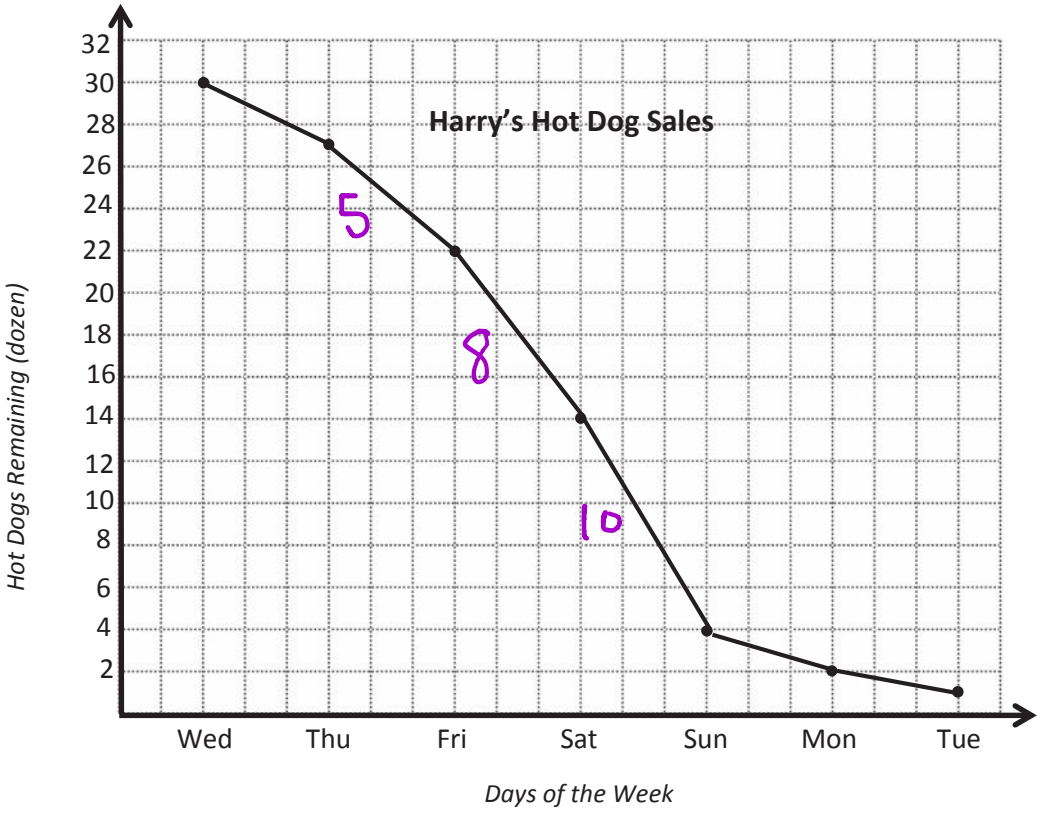
d. What might have been another cause leading to an increase in the depth of the creek?

Maybe they opened the dam that is upstream.

Name _____ Date _____

Use the following information to complete the line graph below. Then, answer the questions that follow.

Harry runs a hot dog stand at the county fair. When he arrived on Wednesday, he had 38 dozen hot dogs for his stand. The graph shows the number of hot dogs (in dozens) that remained unsold at the end of each day of sales.



a. How many dozen hot dogs did Harry sell on Wednesday? How do you know?

He sold 8 dozen hotdogs because he started with 38 doz and now has 30 doz.

b. Between which two-day period did the number of hot dogs sold change the most? Explain how you determined your answer.

Sat/Sun is where the biggest change is.

c. During which three days did Harry sell the most hot dogs?

Fri-Sat-Sun are the three days.

d. How many dozen hot dogs were sold on these three days?

He sold 23 dozen hot dogs.