

MSP

Grade 6 Module 3

Lesson Refreshers

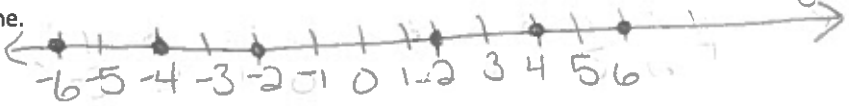
&

Homework Starters

Problem Set

*I found the opposite by determining the distance from zero, left to right*

1. Draw a number line, and create a scale for the number line in order to plot the points  $-2$ ,  $4$ , and  $6$ .
  - a. Graph each point and its opposite on the number line.
  - b. Explain how you found the opposite of each point.
2. Carlos uses a vertical number line to graph the points  $-4$ ,  $-2$ ,  $3$ , and  $4$ . He notices that  $-4$  is closer to zero than  $-2$ . He is not sure about his diagram. Use what you know about a vertical number line to determine if Carlos made a mistake or not. Support your explanation with a number line diagram.
3. Create a scale in order to graph the numbers  $-12$  through  $12$  on a number line. What does each tick mark represent?
4. Choose an integer between  $-5$  and  $-10$ . Label it  $R$  on the number line created in Problem 3, and complete the following tasks.
  - a. What is the opposite of  $R$ ? Label it  $Q$ .
  - b. State a positive integer greater than  $Q$ . Label it  $T$ .
  - c. State a negative integer greater than  $R$ . Label it  $S$ .
  - d. State a negative integer less than  $R$ . Label it  $U$ .
  - e. State an integer between  $R$  and  $Q$ . Label it  $V$ .
5. Will the opposite of a positive number always, sometimes, or never be a positive number? Explain your reasoning.
6. Will the opposite of zero always, sometimes, or never be zero? Explain your reasoning.
7. Will the opposite of a number always, sometimes, or never be greater than the number itself? Explain your reasoning. Provide an example to support your reasoning.

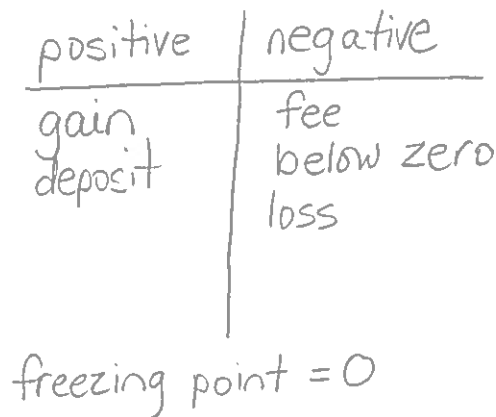


Problem Set

1. Express each situation as an integer in the space provided.

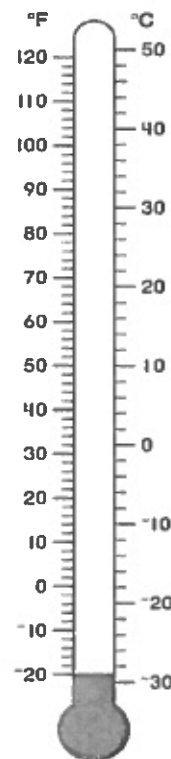
- a. A gain of 56 points in a game
- b. A fee charged of \$2
- c. A temperature of 32 degrees below zero
- d. A 56-yard loss in a football game
- e. The freezing point of water in degrees Celsius
- f. A \$12,500 deposit

56  
-2  
-32  
-56  
0  
12,500



For Problems 2–5, use the thermometer to the right.

- 2. Each sentence is stated *incorrectly*. Rewrite the sentence to correctly describe each situation.
  - a. The temperature is  $-10$  degrees Fahrenheit below zero.
  - b. The temperature is  $-22$  degrees Celsius below zero.
- 3. Mark the integer on the thermometer that corresponds to the temperature given.
  - a.  $70^{\circ}\text{F}$
  - b.  $12^{\circ}\text{C}$
  - c.  $110^{\circ}\text{F}$
  - d.  $-4^{\circ}\text{C}$
- 4. The boiling point of water is  $212^{\circ}\text{F}$ . Can this thermometer be used to record the temperature of a boiling pot of water? Explain.
- 5. Kaylon shaded the thermometer to represent a temperature of 20 degrees below zero Celsius as shown in the diagram. Is she correct? Why or why not? If necessary, describe how you would fix Kaylon’s shading.

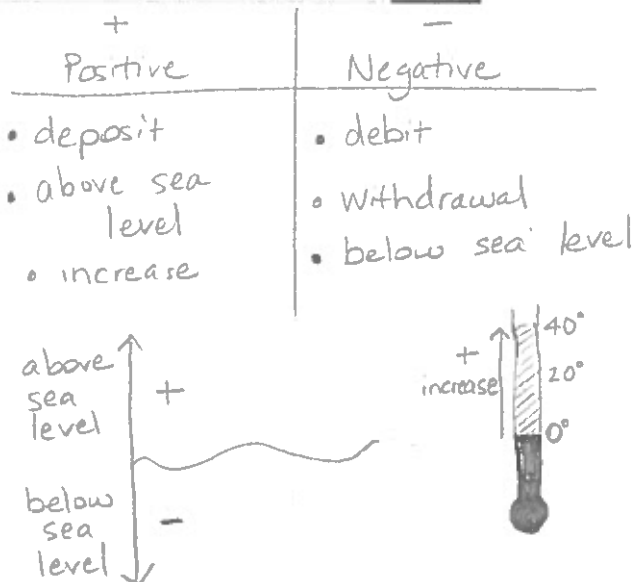


DMK

Problem Set

1. Write an integer to match the following descriptions.

- a. A debit of \$40 \_\_\_\_\_
- b. A deposit of \$225 \_\_\_\_\_
- c. 14,000 feet above sea level \_\_\_\_\_
- d. A temperature increase of 40°F \_\_\_\_\_
- e. A withdrawal of \$225 \_\_\_\_\_
- f. 14,000 feet below sea level \_\_\_\_\_



For Problems 2–4, read each statement about a real-world situation and the two related statements in parts (a) and (b) carefully. Circle the correct way to describe each real-world situation; possible answers include either (a), (b), or both (a) and (b).

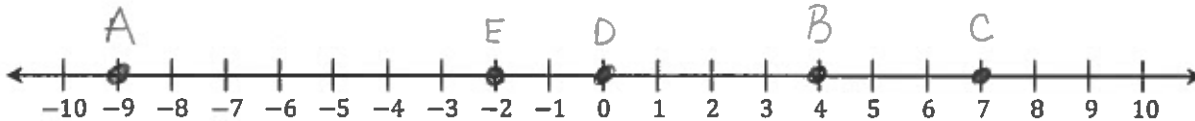
- 2. A whale is 600 feet below the surface of the ocean.
  - a. The depth of the whale is 600 feet from the ocean’s surface.
  - b. The whale is  $-600$  feet below the surface of the ocean.
  
- 3. The elevation of the bottom of an iceberg with respect to sea level is given as  $-125$  feet.
  - a. The iceberg is 125 feet above sea level.
  - b. The iceberg is 125 feet below sea level.
  
- 4. Alex’s body temperature decreased by  $2^{\circ}\text{F}$ .
  - a. Alex’s body temperature dropped  $2^{\circ}\text{F}$ .
  - b. The integer  $-2$  represents the change in Alex’s body temperature in degrees Fahrenheit.
  
- 5. A credit of \$35 and a debit of \$40 are applied to your bank account.
  - a. What is an appropriate scale to graph a credit of \$35 and a debit of \$40? Explain your reasoning.
  - b. What integer represents “a credit of \$35” if zero represents the original balance? Explain.
  - c. What integer describes “a debit of \$40” if zero represents the original balance? Explain.
  - d. Based on your scale, describe the location of both integers on the number line.
  - e. What does zero represent in this situation?

Problem Set

1. Find the opposite of each number, and describe its location on the number line.
  - a. -5
  - b. 10
  - c. -3
  - d. 15

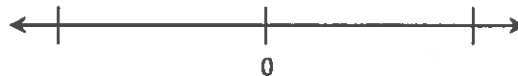
*the opposite of a positive number is negative  
the opposite of a negative number is positive*

2. Write the opposite of each number, and label the points on the number line.
  - a. Point A: the opposite of 9 *the opposite of 9 is -9*
  - b. Point B: the opposite of -4 *the opposite of -4 is 4*
  - c. Point C: the opposite of -7 *the opposite of -7 is 7*
  - d. Point D: the opposite of 0 *the opposite of 0 is 0*
  - e. Point E: the opposite of 2 *the opposite of 2 is -2*



3. Study the first example. Write the integer that represents the opposite of each real-world situation. In words, write the meaning of the opposite.
  - a. An atom's positive charge of 7
  - b. A deposit of \$25
  - c. 3,500 feet below sea level
  - d. A rise of 45°C
  - e. A loss of 13 pounds

4. On a number line, locate and label a credit of \$38 and a debit for the same amount from a bank account. What does zero represent in this situation?



5. On a number line, locate and label 40°C below zero and 40°C above zero. What does zero represent in this situation?



*DR*

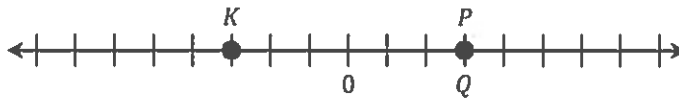
Problem Set

1. Read each description carefully, and write an equation that represents the description.

- a. The **opposite** of negative seven  $-(-7) = 7$
- b. The **opposite of the opposite** of twenty-five  $-(-(25)) = 25$
- c. The **opposite** of fifteen  $-(15)$
- d. The **opposite of negative** thirty-six  $-(-36) = 36$

the opposite of a positive number is negative  
 the opposite of a negative number is positive  
 the opposite of the opposite of a number takes you back to the original number

2. Jose graphed the opposite of the opposite of 3 on the number line. First, he graphed point  $P$  on the number line 3 units to the right of zero. Next, he graphed the opposite of  $P$  on the number line 3 units to the left of zero and labeled it  $K$ . Finally, he graphed the opposite of  $K$  and labeled it  $Q$ .



- a. Is his diagram correct? Explain. If the diagram is not correct, explain his error, and correctly locate and label point  $Q$ .
- b. Write the relationship between the points:
  - $P$  and  $K$  \_\_\_\_\_
  - $K$  and  $Q$  \_\_\_\_\_
  - $P$  and  $Q$  \_\_\_\_\_

3. Read each real-world description. Write the integer that represents the opposite of the opposite. Show your work to support your answer.

- a. A temperature rise of 15 degrees Fahrenheit
- b. A gain of 55 yards
- c. A loss of 10 pounds
- d. A withdrawal of \$2,000

4. Write the integer that represents the statement. Locate and label each point on the number line below.

- a. The opposite of a gain of 6
- b. The opposite of a deposit of \$10
- c. The opposite of the opposite of 0
- d. The opposite of the opposite of 4
- e. The opposite of the opposite of a loss of 5



*DK*

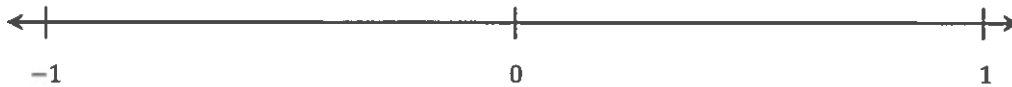
Problem Set

1. In the space provided, write the opposite of each number.

- a.  $\frac{10}{7}$      $-\frac{10}{7}$
- b.  $-\frac{5}{3}$      $\frac{5}{3}$
- c. 3.82     $-3.82$
- d.  $-6\frac{1}{2}$      $6\frac{1}{2}$

Change the sign, for example positive becomes negative and negative becomes positive.

2. Choose a non-integer between 0 and 1. Label it point *A* and its opposite point *B* on the number line. Write values below the points.



- a. To draw a scale that would include both points, what could be the length of each segment?
  - b. In words, create a real-world situation that could represent the number line diagram.
3. Choose a value for point *P* that is between  $-6$  and  $-7$ .
- a. What is the opposite of point *P*?
  - b. Use the value from part (a), and describe its location on the number line in relation to zero.
  - c. Find the opposite of the opposite of point *P*. Show your work, and explain your reasoning.

4. Locate and label each point on the number line. Use the diagram to answer the questions.

*Jill lives one block north of the pizza shop.*

*Janette's house is  $\frac{1}{3}$  block past Jill's house.*

*Jeffrey and Olivia are in the park  $\frac{4}{3}$  blocks south of the pizza shop.*

*Jenny's Jazzy Jewelry Shop is located halfway between the pizza shop and the park.*

- a. Describe an appropriate scale to show all the points in this situation.
- b. What number represents the location of Jenny's Jazzy Jewelry Shop? Explain your reasoning.



*JHC*

Problem Set

1. In the table below, list each set of rational numbers in order from least to greatest. Then, list their opposites. Finally, list the opposites in order from least to greatest. The first example has been completed for you.

| Rational Numbers            | Ordered from Least to Greatest | Opposites | Opposites Ordered from Least to Greatest |
|-----------------------------|--------------------------------|-----------|------------------------------------------|
| -7.1, -7.25                 | -7.25, -7.1                    | 7.25, 7.1 | 7.1, 7.25                                |
| $\frac{1}{4}, -\frac{1}{2}$ |                                |           |                                          |
| 2, -10                      |                                |           |                                          |
| 0, $3\frac{1}{2}$           |                                |           |                                          |
| -5, -5.6                    |                                |           |                                          |
| $24\frac{1}{2}, 24$         |                                |           |                                          |
| -99.9, -100                 |                                |           |                                          |
| -0.05, -0.5                 |                                |           |                                          |
| -0.7, 0                     |                                |           |                                          |
| 100.02, 100.04              |                                |           |                                          |

2. For each row, what pattern do you notice between the numbers in the second and fourth columns? Why is this so?

the 2nd and 4th column are opposites (least to greatest, greatest to least) and their order is opposite.



the 3rd column list the opposites of 1st column's rational numbers.



Column #1

Column #3



**Lesson Summary**

When we order rational numbers, their opposites are in the opposite order. For example, if 7 is greater than 5,  $-7$  is less than  $-5$ .

**Problem Set**

1. a. In the table below, list each set of rational numbers from greatest to least. Then, in the appropriate column, state which number was farthest right and which number was farthest left on the number line.

| Column 1                        | Column 2                       | Column 3                          | Column 4                         |
|---------------------------------|--------------------------------|-----------------------------------|----------------------------------|
| Rational Numbers                | Ordered from Greatest to Least | Farthest Right on the Number Line | Farthest Left on the Number Line |
| $-1.75, -3.25$                  | $-1.75, -3.25$                 | $-1.75$                           | $-3.25$                          |
| $-9.7, -9$                      | $-9, -9.7$                     | $-9$                              | $-9.7$                           |
| $\frac{4}{5}, 0$                | $\frac{4}{5}, 0$               | $\frac{4}{5}$                     | $0$                              |
| $-70, -70\frac{4}{5}$           |                                |                                   |                                  |
| $-15, -5$                       |                                |                                   |                                  |
| $\frac{1}{2}, -2$               |                                |                                   |                                  |
| $-99, -100, -99.3$              |                                |                                   |                                  |
| $0.05, 0.5$                     |                                |                                   |                                  |
| $0, -\frac{3}{4}, -\frac{1}{4}$ |                                |                                   |                                  |
| $-0.02, -0.04$                  |                                |                                   |                                  |

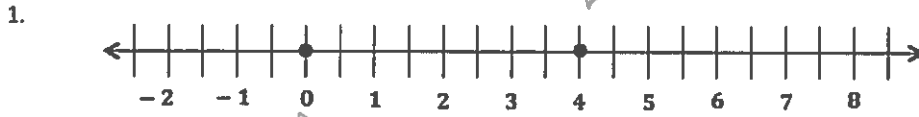
The answer in column 3 is the first answer in column 2 and the answer in column 4 is the second answer in column 2.

- b. For each row, describe the relationship between the number in Column 3 and its order in Column 2. Why is this?
- c. For each row, describe the relationship between the number in Column 4 and its order in Column 2. Why is this?



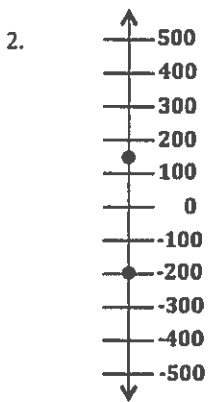
Problem Set

Write a story related to the points shown in each graph. Be sure to include a statement relating the numbers graphed on the number line to their order.



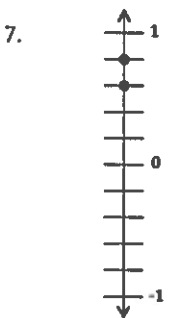
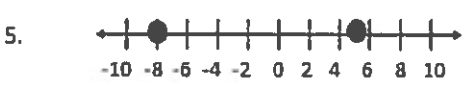
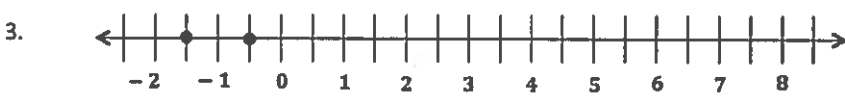
4 bonus points on the 2nd quiz = 4

On the 1st math quiz, I earned no bonus points. On the next math quiz, I earned 4 bonus points.



no bonus points on the 1st quiz = 0

0 is graphed to the left of 4 because  $0 < 4$ .



DK

Problem Set

For each of the relationships described below, write an inequality that relates the rational numbers.

1. Seven feet below sea level is farther below sea level than  $4\frac{1}{2}$  feet below sea level.

$$-7 < -4\frac{1}{2}$$

seven feet below sea level =  $-7$   
 $4\frac{1}{2}$  feet below sea level =  $-4\frac{1}{2}$   
 farther below  $\rightarrow <$

2. Sixteen degrees Celsius is warmer than zero degrees Celsius.
3. Three and one-half yards of fabric is less than five and one-half yards of fabric.
4. A loss of \$500 in the stock market is worse than a gain of \$200 in the stock market.
5. A test score of 64 is worse than a test score of 65, and a test score of 65 is worse than a test score of  $67\frac{1}{2}$ .
6. In December, the total snowfall was 13.2 inches, which is more than the total snowfall in October and November, which was 3.7 inches and 6.15 inches, respectively.

For each of the following, use the information given by the inequality to describe the relative position of the numbers on a horizontal number line.

7.  $-0.2 < -0.1$
8.  $8\frac{1}{4} > -8\frac{1}{4}$
9.  $-2 < 0 < 5$
10.  $-99 > -100$
11.  $-7.6 < -7\frac{1}{2} < -7$

Fill in the blanks with numbers that correctly complete each of the statements.

12. Three integers between  $-4$  and  $0$        $<$        $<$
13. Three rational numbers between  $16$  and  $15$        $<$        $<$
14. Three rational numbers between  $-1$  and  $-2$        $<$        $<$
15. Three integers between  $2$  and  $-2$        $<$        $<$

DK

## Problem Set

For each of the following two quantities in Problems 1–4, which has the greater magnitude? (Use absolute value to defend your answers.)

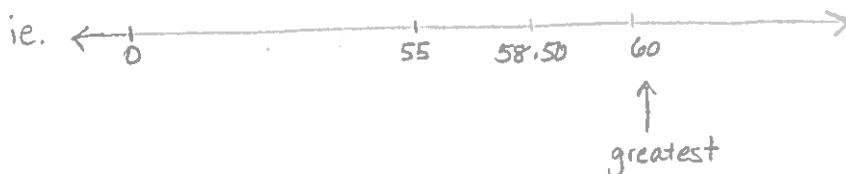
- 33 dollars and  $-52$  dollars
- $-14$  feet and 23 feet
- $-24.6$  pounds and  $-24.58$  pounds
- $-11\frac{1}{4}$  degrees and 11 degrees

For Problems 5–7, answer true or false. If false, explain why.

- The absolute value of a negative number will always be a positive number.
- The absolute value of any number will always be a positive number.
- Positive numbers will always have a higher absolute value than negative numbers.
- Write a word problem whose solution is  $|20| = 20$ .
- Write a word problem whose solution is  $|-70| = 70$ .

10. Look at the bank account transactions listed below, and determine which has the greatest impact on the account balance. Explain.

- A withdrawal of \$60  $| -60 | = 60$
- A deposit of \$55  $| 55 | = 55$
- A withdrawal of \$58.50  $| -58.50 | = 58.50$



ie.

$$60 > 58.50 > 55$$

\* a withdrawal of \$60 has the greatest impact on the account balance.

**Lesson Summary**

The absolute values of positive numbers always have the same order as the positive numbers themselves. Negative numbers, however, have exactly the opposite order as their absolute values. The absolute values of numbers on the number line increase as you move away from zero in either direction.

**Problem Set**

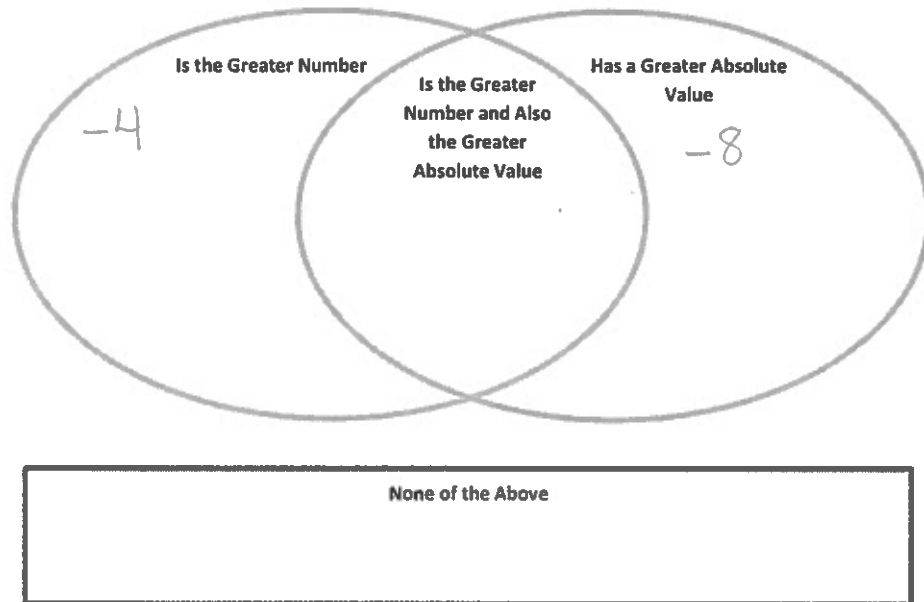
- Micah and Joel each have a set of five rational numbers. Although their sets are not the same, their sets of numbers have absolute values that are the same. Show an example of what Micah and Joel could have for numbers. Give the sets in order and the absolute values in order.

Enrichment Extension: Show an example where Micah and Joel both have positive and negative numbers.

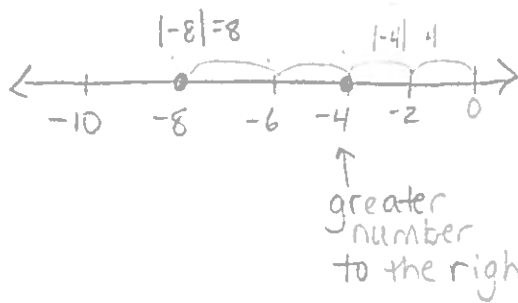
*\*hint - draw a number line for each one. The number to the left is less!*

- For each pair of rational numbers below, place each number in the Venn diagram based on how it compares to the other.

- 4, -8
- 4, 8
- 7, -3
- 9, 2
- 6, 1
- 5, 5
- 2, 0



a)



-8 has a greater absolute value because it is farther from zero.

DK

**Lesson Summary**

When comparing values in real-world situations, descriptive words help you to determine if the number represents a positive or negative number. Making this distinction is critical when solving problems in the real world. Also critical is to understand how an inequality statement about an absolute value compares to an inequality statement about the number itself.

**Problem Set**

*Vacuum is negative  
Pressure is positive*

- Negative air pressure created by an air pump makes a vacuum cleaner able to collect air and dirt into a bag or other container. Below are several readings from a pressure gauge. Write rational numbers to represent each of the readings, and then order the rational numbers from least to greatest.

|                                               |                 |               |                |                |                |                |                  |
|-----------------------------------------------|-----------------|---------------|----------------|----------------|----------------|----------------|------------------|
| Gauge Readings<br>(pounds per square inch)    | 25 psi pressure | 13 psi vacuum | 6.3 psi vacuum | 7.8 psi vacuum | 1.9 psi vacuum | 2 psi pressure | 7.8 psi pressure |
| Pressure Readings<br>(pounds per square inch) | 25              | -13           | -6.3           | -7.8           | -1.9           | 2              | 7.8              |

$-13 < -7.8 < -6.3 < -1.9 < 2 < 7.8 < 25$

- The fuel gauge in Nic's car says that he has 26 miles to go until his tank is empty. He passed a fuel station 19 miles ago, and a sign says there is a town only 8 miles ahead. If he takes a chance and drives ahead to the town and there isn't a fuel station there, does he have enough fuel to go back to the last station? Include a diagram along a number line, and use absolute value to find your answer.

*Draw a # line to help you put them in order*

## Lesson Summary

- The order of numbers in an ordered pair is important because the ordered pair should describe one location in the coordinate plane.
- The first number (called the *first coordinate*) describes a location using the horizontal direction.
- The second number (called the *second coordinate*) describes a location using the vertical direction.

## Problem Set

1. Use the set of ordered pairs below to answer each question.

$\{(4, 20), (8, 4), (2, 3), (15, 3), (6, 15), (6, 30), (1, 5), (6, 18), (0, 3)\}$

- Write the ordered pair(s) whose first and second coordinate have a greatest common factor of 3.
- Write the ordered pair(s) whose first coordinate is a factor of its second coordinate.
- Write the ordered pair(s) whose second coordinate is a prime number.

2. Write ordered pairs that represent the location of points  $A$ ,  $B$ ,  $C$ , and  $D$ , where the first coordinate represents the horizontal direction, and the second coordinate represents the vertical direction.

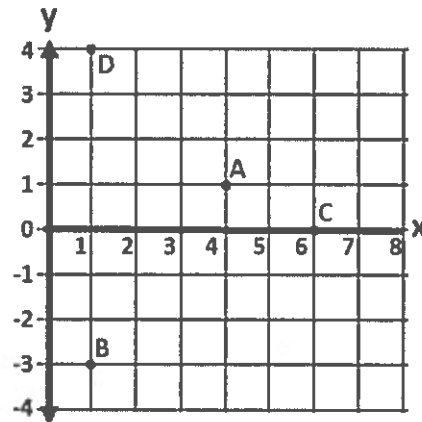
ie.

$A(4, 1)$

- Point  $A$  is 4 units to the right of the origin  $(0)$  on the  $x$ -axis.

AND

- Point  $A$  is 1 unit above the origin  $(0)$  on the  $y$ -axis.



## Extension:

3. Write ordered pairs of integers that satisfy the criteria in each part below. Remember that the origin is the point whose coordinates are  $(0, 0)$ . When possible, give ordered pairs such that (i) both coordinates are positive, (ii) both coordinates are negative, and (iii) the coordinates have opposite signs in either order.
- These points' vertical distance from the origin is twice their horizontal distance.
  - These points' horizontal distance from the origin is two units more than the vertical distance.
  - These points' horizontal and vertical distances from the origin are equal, but only one coordinate is positive.

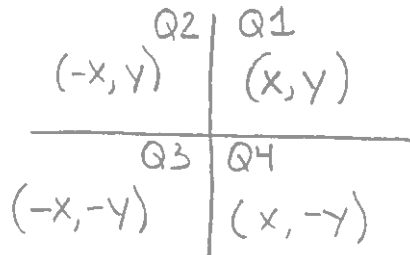
**Lesson Summary**

- The  $x$ -axis and  $y$ -axis of the coordinate plane are number lines that intersect at zero on each number line.
- The axes partition the coordinate plane into four quadrants.
- Points in the coordinate plane lie either on an axis or in one of the four quadrants.

**Problem Set**

1. Name the quadrant in which each of the points lies. If the point does not lie in a quadrant, specify which axis the point lies on.

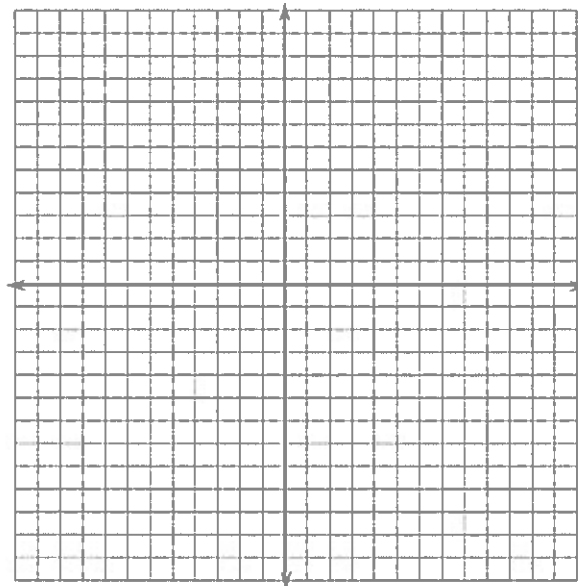
- a.  $(-2, 5)$   $(-x, y) \rightarrow Q2$
- b.  $(8, -4)$
- c.  $(-1, -8)$
- d.  $(9.2, 7)$
- e.  $(0, -4)$



2. Jackie claims that points with the same  $x$ - and  $y$ -coordinates must lie in Quadrant I or Quadrant III. Do you agree or disagree? Explain your answer.

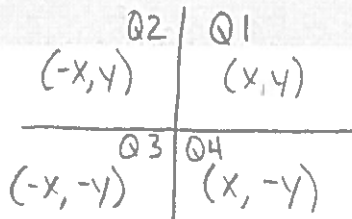
3. Locate and label each set of points on the coordinate plane. Describe similarities of the ordered pairs in each set, and describe the points on the plane.

- a.  $\{(-2, 5), (-2, 2), (-2, 7), (-2, -3), (-2, -0.8)\}$
- b.  $\{(-9, 9), (-4, 4), (-2, 2), (1, -1), (3, -3), (0, 0)\}$
- c.  $\{(-7, -8), (5, -8), (0, -8), (10, -8), (-3, -8)\}$



*DK*





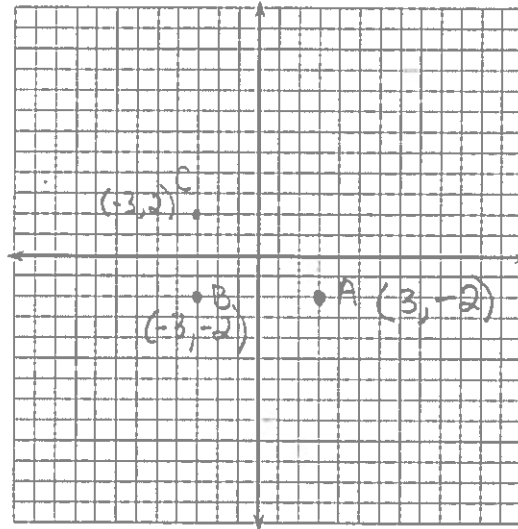
Problem Set

1. Locate a point in Quadrant IV of the coordinate plane. Label the point *A*, and write its ordered pair next to it.

*a* when you reflect over the y-axis, the x-coordinate changes signs but the y-coordinate stays the same

- a. Reflect point *A* over an axis so that its image is in Quadrant III. Label the image *B*, and write its ordered pair next to it. Which axis did you reflect over? What is the only difference in the ordered pairs of points *A* and *B*?
- b. Reflect point *B* over an axis so that its image is in Quadrant II. Label the image *C*, and write its ordered pair next to it. Which axis did you reflect over? What is the only difference in the ordered pairs of points *B* and *C*? How does the ordered pair of point *C* relate to the ordered pair of point *A*?
- c. Reflect point *C* over an axis so that its image is in Quadrant I. Label the image *D*, and write its ordered pair next to it. Which axis did you reflect over? How does the ordered pair for point *D* compare to the ordered pair for point *C*? How does the ordered pair for point *D* compare to points *A* and *B*?

*b* when you reflect over the x-axis, the y-coordinate changes signs but the x-coordinate stays the same



2. Bobbie listened to her teacher’s directions and navigated from the point  $(-1, 0)$  to  $(5, -3)$ . She knows that she has the correct answer, but she forgot part of the teacher’s directions. Her teacher’s directions included the following:

“Move 7 units down, reflect about the \_\_\_? \_\_\_-axis, move up 4 units, and then move right 4 units.”

Help Bobbie determine the missing axis in the directions, and explain your answer.

*DK*

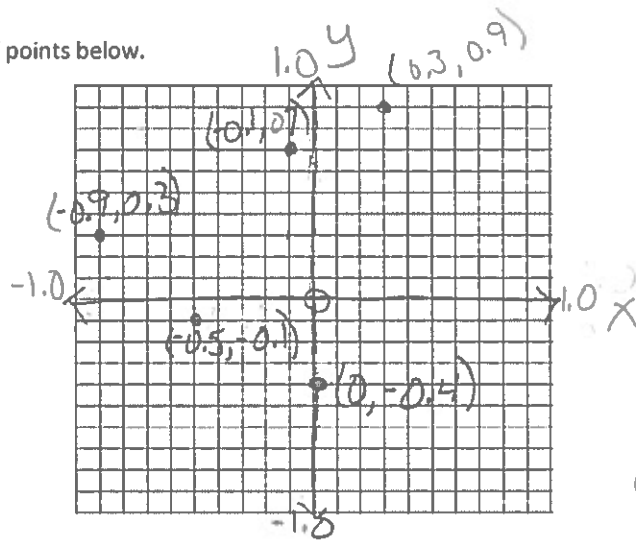
**Lesson Summary**

- The axes of the coordinate plane must be drawn using a straightedge and labeled  $x$  (horizontal axis) and  $y$  (vertical axis).
- Before assigning a scale to the axes, it is important to assess the range of values found in a set of points as well as the number of grid lines available. This allows you to determine an appropriate scale so all points can be represented on the coordinate plane that you construct.

**Problem Set**

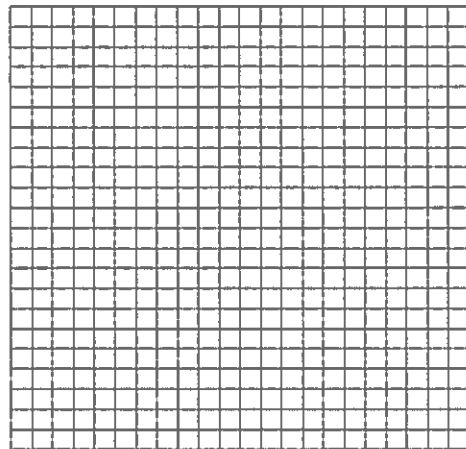
1. Label the coordinate plane, and then locate and label the set of points below.

$$\left\{ \begin{array}{l} (0.3, 0.9), (-0.1, 0.7), (-0.5, -0.1), \\ (-0.9, 0.3), (0, -0.4) \end{array} \right\}$$



2. Label the coordinate plane, and then locate and label the set of points below.

$$\left\{ \begin{array}{l} (90, 9), (-110, -11), (40, 4), \\ (-60, -6), (-80, -8) \end{array} \right\}$$



Extension:

3. Describe the pattern you see in the coordinates in Problem 2 and the pattern you see in the points. Are these patterns consistent for other points too?

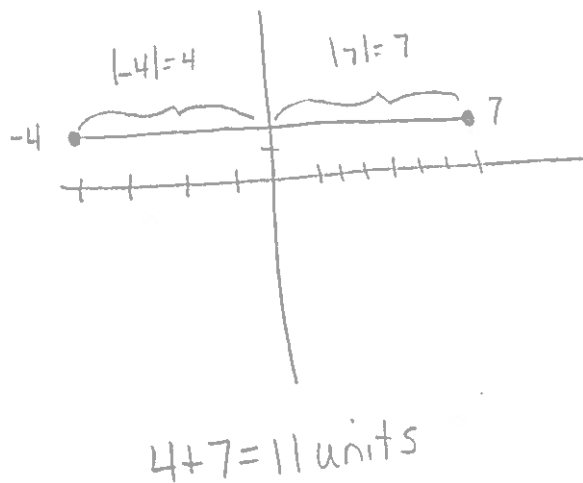
**Lesson Summary**

To find the distance between points that lie on the same horizontal line or on the same vertical line, we can use the same strategy that we used to find the distance between points on the number line.

**Problem Set**

1. Find the length of the line segment with end points  $(7, 2)$  and  $(-4, 2)$ , and explain how you arrived at your solution.
2. Sarah and Jamal were learning partners in math class and were working independently. They each started at the point  $(-2, 5)$  and moved 3 units vertically in the plane. Each student arrived at a different end point. How is this possible? Explain and list the two different end points.
3. The length of a line segment is 13 units. One end point of the line segment is  $(-3, 7)$ . Find four points that could be the other end points of the line segment.

$$\begin{matrix} \times & \times \\ (7, 2) & (-4, 2) \end{matrix}$$



Since the y-coordinate stays the same, and the x-coordinates cross the y-axis, add the absolute values of the x-coordinates to find the length of the line segment

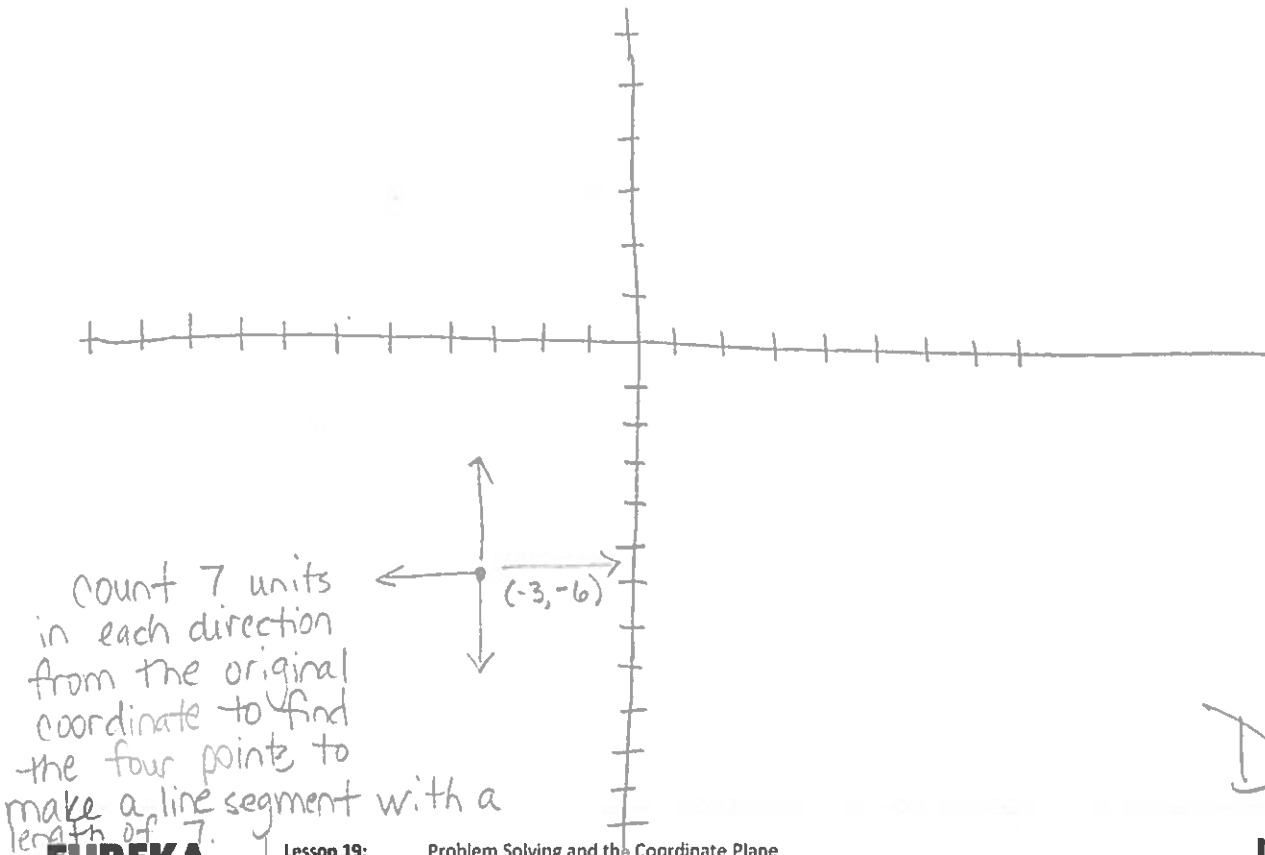
**Lesson Summary**

- The length of a line segment on the coordinate plane can be determined by finding the distance between its end points.
- You can find the perimeter and area of figures such as rectangles and right triangles by finding the lengths of the line segments that make up their sides and then using the appropriate formula.

*\* use coordinate grids to help you solve these problems!*

**Problem Set**

1. One end point of a line segment is  $(-3, -6)$ . The length of the line segment is 7 units. Find four points that could serve as the other end point of the given line segment.
2. Two of the vertices of a rectangle are  $(1, -6)$  and  $(-8, -6)$ . If the rectangle has a perimeter of 26 units, what are the coordinates of its other two vertices?
3. A rectangle has a perimeter of 28 units, an area of 48 square units, and sides that are either horizontal or vertical. If one vertex is the point  $(-5, -7)$  and the origin is in the interior of the rectangle, find the vertex of the rectangle that is opposite  $(-5, -7)$ .



*DK*