

Name: \_\_\_\_\_ Date: \_\_\_\_\_

## THE NUMBER SYSTEM – Ordered Pairs

**CCSS Math Content 6.NS.C.6b:** Understand signs of numbers in ordered pairs as indicating locations in quadrants of the coordinate plane; recognize that when two ordered pairs differ only by signs, the locations of the points are related by reflections across one or both axes.

### SHARPEN YOUR SKILLS:

Without graphing, determine the quadrant in which the point represented by the ordered pair would be graphed. Explain how you determined your answer.

1.  $(4, 2)$  \_\_\_\_\_  
\_\_\_\_\_

2.  $(-5, -6)$  \_\_\_\_\_  
\_\_\_\_\_

3.  $(7, -3)$  \_\_\_\_\_  
\_\_\_\_\_

4.  $(-9, 8)$  \_\_\_\_\_  
\_\_\_\_\_

### APPLY YOUR SKILLS:

Without graphing, explain the relationship between the given points. Explain how you determined your answers.

1.  $A(-3, 5)$  and  $B(-3, -5)$  \_\_\_\_\_  
\_\_\_\_\_

2.  $A(-3, 5)$  and  $B(3, -5)$  \_\_\_\_\_  
\_\_\_\_\_

3.  $A(-3, 5)$  and  $B(3, 5)$  \_\_\_\_\_  
\_\_\_\_\_

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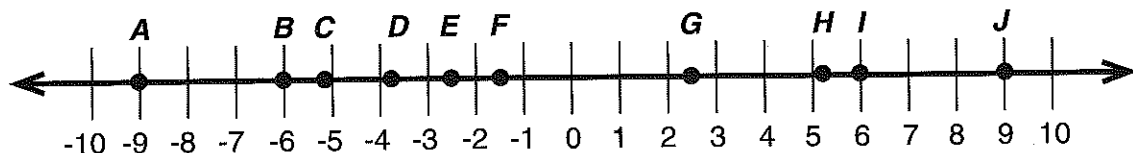
## THE NUMBER SYSTEM – Graphing Integers and Real Numbers

**CCSS Math Content 6.NS.C.6c:** Find and position integers and other rational numbers on a horizontal or vertical number line diagram; find and position pairs of integers and other rational numbers on a coordinate plane.

**SHARPEN YOUR SKILLS:**

Identify which point corresponds to the given integer or real number.

- |               |               |
|---------------|---------------|
| 1. 2.5 _____  | 5. -2.5 _____ |
| 2. -6 _____   | 6. 6 _____    |
| 3. 9 _____    | 7. -9 _____   |
| 4. -5.1 _____ | 8. 5.1 _____  |



**APPLY YOUR SKILLS:**

Graph the integer or real number on the number line and label it with the given letter.

- |            |           |
|------------|-----------|
| 1. N: -5.5 | 5. G: 0   |
| 2. E: 2    | 6. T: -4  |
| 3. R: 7.9  | 7. E: -1  |
| 4. I: -9.4 | 8. S: 9.5 |



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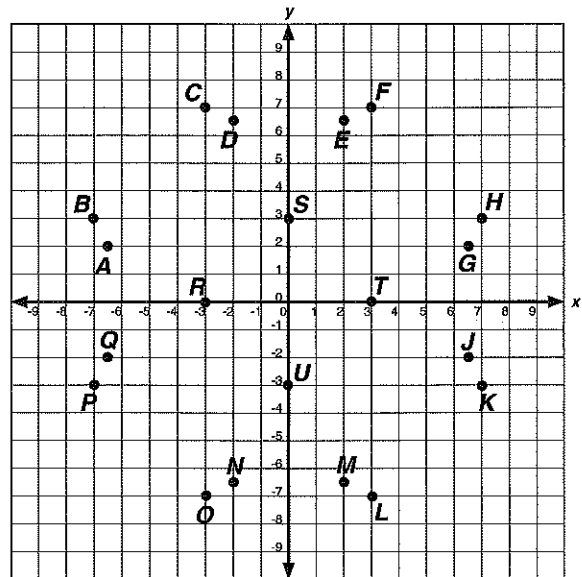
## THE NUMBER SYSTEM – Graphing Integers and Real Numbers

**CCSS Math Content 6.NS.C.6c:** Find and position integers and other rational numbers on a horizontal or vertical number line diagram; find and position pairs of integers and other rational numbers on a coordinate plane.

### SHARPEN YOUR SKILLS:

Identify which point corresponds to the given coordinates.

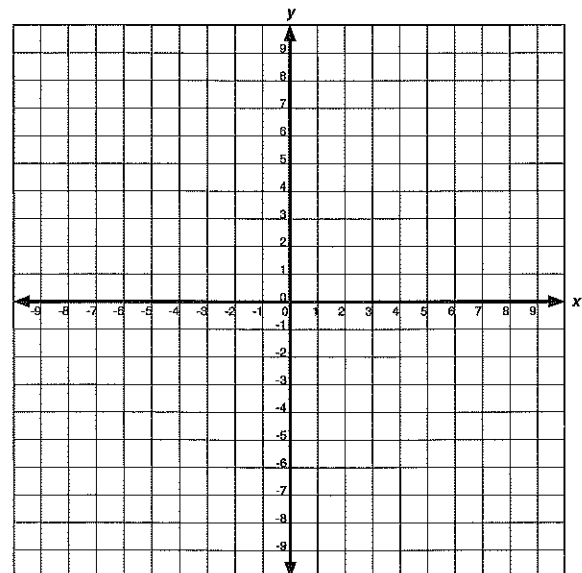
1.  $(3, -7)$  \_\_\_\_\_
2.  $(6.5, 2)$  \_\_\_\_\_
3.  $(-3, 0)$  \_\_\_\_\_
4.  $(-2, 6\frac{1}{2})$  \_\_\_\_\_
5.  $(-7, -3)$  \_\_\_\_\_
6.  $(0, 3)$  \_\_\_\_\_
7.  $(\frac{13}{2}, -2)$  \_\_\_\_\_
8.  $(7, 3)$  \_\_\_\_\_



### APPLY YOUR SKILLS:

Plot the point on the coordinate plane and label it with the given letter.

1. A  $(4, 0)$
2. B  $(0, -7)$
3. C  $(7, -4)$
4. D  $(-5, -5\frac{1}{10})$
5. E  $(1.9, 9)$
6. F  $(-\frac{15}{2}, 4.5)$



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## THE NUMBER SYSTEM – Interpreting Inequality Statements

**CCSS Math Content 6.NS.C.7a:** Interpret statements of inequality as statements about the relative position of two numbers on a number line diagram.

### SHARPEN YOUR SKILLS:

Write a statement about the relationship between the locations on a number line diagram of the numbers in the given inequality.

1.  $-7 < 4$  \_\_\_\_\_
2.  $-5 > -8$  \_\_\_\_\_
3.  $6 < 10$  \_\_\_\_\_
4.  $2 > -3$  \_\_\_\_\_
5.  $0 < 9$  \_\_\_\_\_
6.  $0 > -1$  \_\_\_\_\_

### APPLY YOUR SKILLS:

1. Carmen claims that the inequalities  $-5 < 3$  and  $3 > -5$  mean the same thing. Is she correct? Explain your reasoning. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
2. Stephanie says that if  $4 > 2$  is a true inequality, then  $-4 > -2$  must also be a true inequality. Is she correct? Explain your reasoning. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
3. Jacob was absent yesterday and doesn't understand how to interpret the inequality  $-1 > -6$ . He asks you to explain it to him. Write a short paragraph explaining it to him. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

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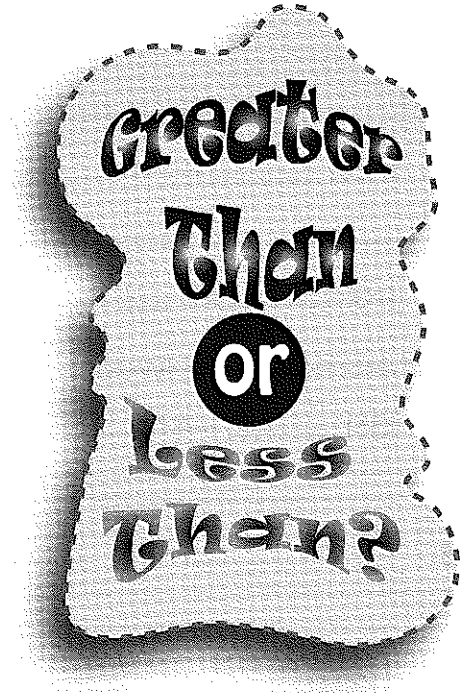
## THE NUMBER SYSTEM – Ordering Rational Numbers

**CCSS Math Content 6.NS.C.7b:** Write, interpret, and explain statements of order for rational numbers in real-world contexts.

### SHARPEN YOUR SKILLS:

Write an inequality to express the relationship described in the exercise.

1.  $-2$  is less than  $4$  \_\_\_\_\_
2.  $7$  is greater than  $-7$  \_\_\_\_\_
3.  $-5$  is greater than  $-10$  \_\_\_\_\_
4.  $2$  is less than  $6$  \_\_\_\_\_
5.  $8$  is greater than  $0$  \_\_\_\_\_
6.  $-3$  is less than  $0$  \_\_\_\_\_
7.  $-9$  is less than  $-1$  \_\_\_\_\_
8.  $4$  is greater than  $-6$  \_\_\_\_\_



### APPLY YOUR SKILLS:

1. Janessa claims that the expression  $-7^{\circ}\text{F} < -1^{\circ}\text{F}$  expresses the fact that  $-1^{\circ}\text{F}$  is warmer than  $-7^{\circ}\text{F}$ . Bart claims that the expression  $-1^{\circ}\text{F} > -7^{\circ}\text{F}$  expresses the fact that  $-1^{\circ}\text{F}$  is warmer than  $-7^{\circ}\text{F}$ . Who is correct? Explain how you determined your answer.

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2. Write an inequality to express the fact that a checking account balance of  $-\$56$  is less than a balance of  $\$21$ . Explain how you determined your answer.

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## THE NUMBER SYSTEM – Absolute Value

**CCSS Math Content 6.NS.C.7c:** Understand the absolute value of a rational number as its distance from 0 on the number line; interpret absolute value as magnitude for a positive or negative quantity in a real-world situation.

### SHARPEN YOUR SKILLS:

Complete the statement with  $<$  or  $>$ . Then, explain how you determined your answer.

1.  $|18|$  \_\_\_\_\_  $|7|$  \_\_\_\_\_  
 \_\_\_\_\_

2.  $|-22|$  \_\_\_\_\_  $|-14|$  \_\_\_\_\_  
 \_\_\_\_\_

3.  $|-3|$  \_\_\_\_\_  $|8|$  \_\_\_\_\_  
 \_\_\_\_\_

4.  $|35|$  \_\_\_\_\_  $|-42|$  \_\_\_\_\_  
 \_\_\_\_\_

5.  $|-2.9|$  \_\_\_\_\_  $|-3.2|$  \_\_\_\_\_  
 \_\_\_\_\_

6.  $|\frac{3}{4}|$  \_\_\_\_\_  $|\frac{1}{-4}|$  \_\_\_\_\_  
 \_\_\_\_\_

7.  $|\frac{-2}{5}|$  \_\_\_\_\_  $|\frac{3}{7}|$  \_\_\_\_\_  
 \_\_\_\_\_

8.  $|6.39|$  \_\_\_\_\_  $|9.63|$  \_\_\_\_\_  
 \_\_\_\_\_

### APPLY YOUR SKILLS:

Ruth just got a new prescription for eyeglasses. The strength of a lens is measured in diopters. A negative diopter strength helps correct for nearsightedness, and a positive diopter strength helps correct for farsightedness. The strength of her left lens will be  $-3.25$  diopters, and the strength of her right lens will be  $2.00$  diopters. Which eye needs more correction? Explain how you determined your answer.

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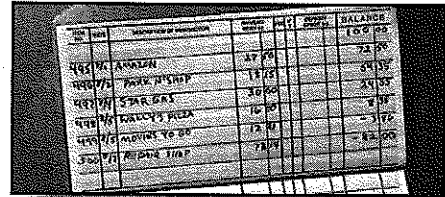
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## THE NUMBER SYSTEM – Comparing Absolute Value and Statements of Order

**CCSS Math Content 6.NS.C.7d:** Distinguish comparisons of absolute value from statements about order.

**SHARPEN YOUR SKILLS:**



- Client #1 has a checking account balance of  $-\$82$ . Client #2 has a checking account balance of  $-\$79$ . Which client has a greater debt? Explain how you determined your answer.

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- City A has an elevation of  $-5$  feet. City B has an elevation of  $-8$  feet. Which city is more below sea level? Explain how you determined your answer.

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- The average temperature in January of Cold Town is  $-11^\circ\text{F}$ . The average temperature in January of Shiver City is  $-7^\circ\text{F}$ . Which city is colder on average during January? Explain how you determined your answer.

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**APPLY YOUR SKILLS:**

Explain why  $-8$  is less than  $-2$  but the absolute value of  $-8$  is greater than the absolute value of  $-2$ . Use a number line diagram and/or an example to support your answer.

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