

Guided Practice

Fill in each \bigcirc with $<$, $>$, or $=$ to make a true statement. (Examples 1–4)

1. $9.7 > -10.3$

2. $\frac{5}{8} > -\frac{3}{8}$

3. $-6.7 = -6\frac{7}{10}$

4. $-\frac{5}{6} > -0.94$

Show your work.

Order the following sets of numbers from least to greatest. (Example 5)

5. $\left\{-3\frac{1}{3}, 3.3, -3\frac{3}{4}, 3.5\right\}$ $-3\frac{3}{4}, -3\frac{1}{3}, 3.3, 3.5$

6. $\left\{2.\bar{1}, -2.1, 2\frac{1}{11}, -2\right\}$ $-2.1, -2, 2\frac{1}{11}, 2.\bar{1}$

7. **Financial Literacy** Steve recorded these amounts in his checkbook: $-\$6.50$, $\$7.00$, $-\$6.75$, and $\$7.25$. Order these amounts from least to greatest. (Example 6)

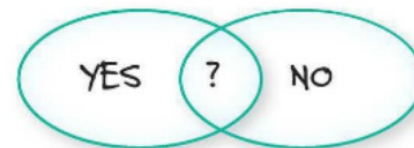
$-\$6.75, -\$6.50, \$7.00, \7.25

8. **e Building on the Essential Question** How can a number line help in ordering rational numbers?

Sample answer: On a horizontal number line, numbers
are shown from least to greatest from left to right.

Rate Yourself!

Are you ready to move on?
Shade the section that applies.



For more help, go online to access a Personal Tutor.



FOLDABLES

Time to update your Foldable!

Fill in each \bigcirc with $<$, $>$, or $=$ to make a true statement. (Examples 1–4)

1. $\frac{5}{4} \bigcirc -\frac{1}{4}$

Show your work. 

2. $-6\frac{1}{3} \bigcirc -6.375$

3. $-\frac{3}{5} \bigcirc -0.6$

4. $-9\frac{2}{7} \bigcirc -9.3$

Order each set of numbers from least to greatest. (Example 5)

5. $\left\{2.8, -2\frac{3}{4}, 3\frac{1}{8}, -2.\bar{2}\right\}$ $-2\frac{3}{4}, -2.\bar{2}, 2.8, 3\frac{1}{8}$

6. $\left\{\frac{2}{3}, -0.6, 0.65, \frac{4}{5}\right\}$ $-0.6, 0.65, \frac{2}{3}, \frac{4}{5}$

7. **Financial Literacy** The change in four stocks during a day are:

$-4\frac{1}{2}$, 5.6, $-2\frac{3}{8}$, and 1.35.

Order the changes from least to greatest. (Example 6)

$-4\frac{1}{2}$, $-2\frac{3}{8}$, 1.35, 5.6

8. **CCSS Multiple Representations** Consider the inequality $-3.5 < -1.5$.

a. **Words** Write a real-world problem that could be represented by the inequality.

Sample answer: The low temperature in City A was -3.5 °F and the low temperature in City B was -1.5 °F. Which city was warmer?

b. **Number Line** Graph -3.5 and -1.5 on the number line.



c. **Symbols** Use the symbol $>$ to compare -3.5 and -1.5 .

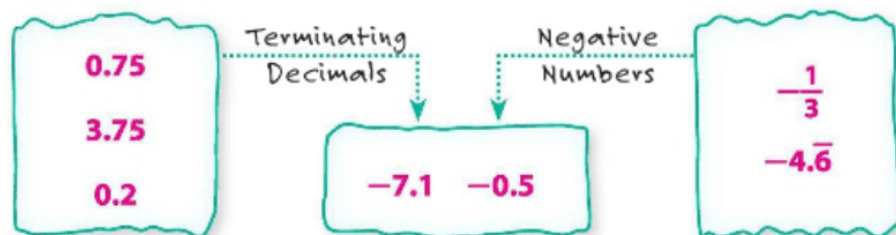
$-1.5 > -3.5$

9. For a STEM competition, Julienne constructed a model rocket. The rocket can reach an average height of 545 feet. Find the differences between the average height and the actual heights reached. Then write them as positive and negative rational numbers. Order the differences from least to greatest.

-10.8 , -9.7 , 9.0, 11.4

Trials	Actual Height (ft)
1	534.2
2	556.4
3	554.0
4	535.3

10. **CCSS Identify Structure** Fill in the diagram with appropriate numbers. **Sample answers are given.**



H.O.T. Problems Higher Order Thinking

11. **CCSS Reason Inductively** Determine whether the following statement is *always*, *sometimes*, or *never* true. Give examples to justify your answer.
If x and y are both greater than zero and $x > y$, then $-x < -y$.

always; The greater a number is, the farther away from zero.

Therefore, its opposite will also be farther from zero.

12. **CCSS Justify Conclusions** Determine whether the fractions $-\frac{4}{5}$, $-\frac{4}{6}$, $-\frac{4}{7}$, and $-\frac{4}{8}$ are arranged in order from least to greatest. Explain.

yes; When positive, if the numerators are equal, the larger the denominator, the smaller the fraction. Therefore, when negative, if the numerators are equal, the greater the denominator



13. **CCSS Reason Abstractly** Explain why -0.33 is greater than $-0.\overline{33}$.

The first decimal is a terminating decimal, so its thousandths place is zero. The second decimal has a repeating digit of 3, so its thousandths place is 3. $-0.330 > -0.\overline{33}$

14. **CCSS Persevere with Problems** Compare the set $\{-0.\overline{7}, -0.\overline{6}, -\frac{7}{9}, -\frac{2}{3}\}$.

Explain your answer.

Sample answer: $-0.\overline{7} = -\frac{7}{9}$ and $-0.\overline{6} = -\frac{2}{3}$; So, both $-\frac{2}{3}$ and $-0.\overline{6}$ are greater than $-\frac{7}{9}$ and $-0.\overline{7}$.

15. **CCSS Model with Mathematics** Write a real-world problem in which you would order a set of four rational numbers.

Sample answer: The temperature of a freezer changed throughout a day as the door was opened and shut. The temperatures were -11°F , 13°F , -12°F , and 15°F . Order the set of temperatures from least to greatest.; -12°F , -11°F , 13°F , 15°F