Unit 7 Lesson 3: Ordering Rational Numbers

1 How Do They Compare? (Warm up)

Student Task Statement

Use the symbols >, <, or = to compare each pair of numbers. Be prepared to explain your reasoning.

- 12 _____ 19

- 15 _____ 1.5

- 6.050 _____ 6.05

- $\frac{19}{24}$ _____ $\frac{19}{21}$

- 212 _____ 190

- 9.02 _____ 9.2

- 0.4 _____ $\frac{9}{40}$

- $\frac{16}{17}$ _____ $\frac{11}{12}$

2 Ordering Rational Number Cards
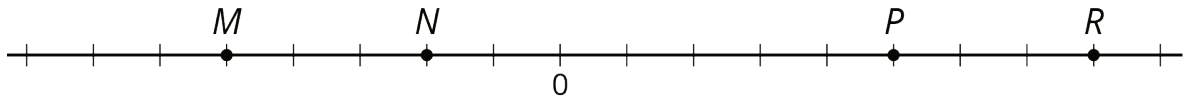
Student Task Statement

Your teacher will give you a set of number cards. Order them from least to greatest.

Your teacher will give you a second set of number cards. Add these to the correct places in the ordered set.

3 Comparing Points on A Line

Student Task Statement

1.

   Use each of the following terms at least once to describe or compare the values of points M, N, P, R.

   - greater than
   - less than
   - opposite of (or opposites)
   - negative number

2. Tell what the value of each point would be if:

   a. P is $2\frac{1}{2}$

   b. N is -0.4

   c. R is 200

   d. M is -15

4 Drinks for Sale

Student Task Statement

A vending machine in an office building sells bottled beverages. The machine keeps track of all changes in the number of bottles from sales and from machine refills and maintenance. This record shows the changes for every 5-minute period over one hour.

1. What might a positive number mean in this context? What about a negative number?

2. What would a "0" in the second column mean in this context?

3. Which numbers—positive or negative—result in fewer bottles in the machine?

4. At what time was there the greatest change to the number of bottles in the machine? How did that change affect the number of remaining bottles in the machine?

5. At which time period, 8:05–8:09 or 8:25–8:29, was there a greater change to the number of bottles in the machine? Explain your reasoning.

6. The machine must be emptied to be serviced. If there are 40 bottles in the machine when it is to be serviced, what number will go in the second column in the table?

time	number of bottles
8:00–8:04	-1
8:05–8:09	+12
8:10–8:14	-4
8:15–8:19	-1
8:20–8:24	-5
8:25–8:29	-12
8:30–8:34	-2
8:35–8:39	0
8:40–8:44	0
8:45–8:49	-6
8:50–8:54	+24
8:55–8:59	0
service	