

NAME _____

Module 5 Decimal Operations, Exponents, and Powers
Lesson 2 Converting, Comparing, and Ordering

Challenge Problems

5.2

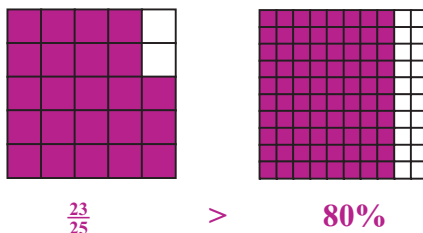
Set 1

- 1 On a test, Zeo got 23 out of 25 questions correct. Trillian's score on the same test was 80%. Whose score was higher? Explain.
- 2 Explain how to order $\frac{1}{2}$, $\frac{1}{4}$, and 0.6 from least to greatest.
- 3 Name a number that lies between $\frac{1}{4}$ and $\frac{1}{5}$. Explain how you can use decimals and a number line to help you.
- 4 Explain why a positive number is always greater than a negative number.

Possible Answers

Set 1

1. Zeo's score is the fraction $\frac{23}{25}$. I model $\frac{23}{25}$ and 80%, shown below. I can see from the models that $\frac{23}{25}$ is greater than 80%. Zeo's score is higher.



2. I used place value. I wrote all the numbers as decimals. $\frac{1}{2} = \frac{5}{10} = 0.5$, and $\frac{1}{4} = \frac{25}{100} = 0.25$. I looked at the ones place for each number. They all equaled zero. In the tenths place, $0.2 < 0.5$, and $0.5 < 0.6$. So, the order of the numbers from least to greatest was 0.25, 0.5, 0.6, or $\frac{1}{4}, \frac{1}{2}, 0.6$.
3. $\frac{1}{4} = \frac{25}{100}$, $\frac{1}{5} = \frac{2}{10}$ or $\frac{20}{100}$. I put $\frac{25}{100}$ and $\frac{20}{100}$ on a number line and I pick a point between them. One number that lies between $\frac{25}{100}$ and $\frac{20}{100}$ is $\frac{23}{100}$.



4. Negative numbers lie to the left of zero on a number line. Positive numbers lie to the right of zero on a number line. So, negative numbers lie to the left of positive numbers. On a number line, the number to the right is greater than the number to the left. So, a positive number is always greater than a negative number.

