

Sign, Size, and Position

Name: _____

Date: _____

Separate order and distance. $-0.9 = -0.90 < -0.84$, but $|-0.9| = 0.90 > 0.84$. The farther-left negative number can have the greater distance from zero.

Explore and explain

1. Order -0.6 , -0.58 , and 0.06 from least to greatest. Explain using hundredths or a number line.

2. Compare $|-1.2|$ and $|-1.15|$. Then compare the signed numbers -1.2 and -1.15 . Explain why the order reverses.

3. A student says $-0.45 > -0.4$ because 45 is greater than 4. Repair the comparison with common units.

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Apply and transfer

4. A temperature starts at -2.35 degrees and rises by 0.8 degree. Find the new temperature.
5. Find the distance between -0.75 and 0.6 on the number line. Explain why it is positive.
6. A balance is $-\$3.40$. A deposit of $\$5.75$ is made, then a fee of $\$0.80$ is charged. Find the final balance and explain each sign.

5. Find the distance between -0.75 and 0.6 on the number line. Explain why it is positive.

- 6.** A balance is $-\$3.40$. A deposit of $\$5.75$ is made, then a fee of $\$0.80$ is charged. Find the final balance and explain each sign.

Think Like a Mathematician

Optional extension. Choose a strategy and justify why it works. Try a diagram, organized cases, a simpler example, or an equation.

7. Find every decimal with exactly two digits after the decimal point that lies strictly between -0.65 and -0.60 . Which is farthest from zero? Explain why your list is complete.

8. A number rounds to -1.3 to the nearest tenth. Using the convention that an exact halfway value rounds away from zero, can the number be greater than -1.3 ? Give an example and explain. Then give one that is less than -1.3 but rounds to the same tenth.