LESSON MAKER PRO

Above, Below, Zero

Use rational numbers to show opposite directions.

GRADE 6 · MA.6.NSO.1.2

MA.6.NSO.1.2 "Given a mathematical or real-world context, represent quantities that have opposite direction using rational numbers. Compare them on a number line and explain the meaning of zero within its context."

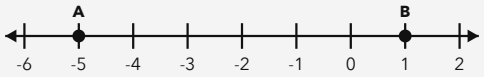
NAME _____ DATE _____

DIRECTION MATTERS

Use a positive rational number for a quantity above, ahead, gained, or increased. Use a negative rational number for a quantity below, behind, lost, or decreased. Zero means neither direction.

WORKED EXAMPLE

A game score changes at points A and B on the number line. Compare the changes. What does 0 mean?



1. Point A is -5.
2. Point B is +1.
3. Since -5 is left of +1, -5 < +1.
4. Zero means no score change.

Answer: A is -5, B is +1, and -5 < +1. Zero means no score change.

PRACTICE 4 problems

1 A submarine is 3/4 mile below sea level. Write its position as a rational number.

ANSWER _____

2 Order -2.5, 0, and 1/2 from least to greatest.

ANSWER _____

3 A temperature is 4 degrees above 0. Write the rational number and compare it to 0.

ANSWER _____

_____

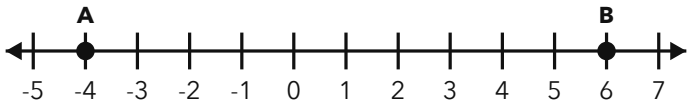
4 Which is farther from zero, -6 or 5? Explain using distance from zero.

ANSWER _____

_____

APPLY IT Show your work

1 At a skate park, negative numbers show feet below ground and positive numbers show feet above ground. The number line marks two drone positions. Name each position, tell which is higher, and explain 0.



ANSWER _____

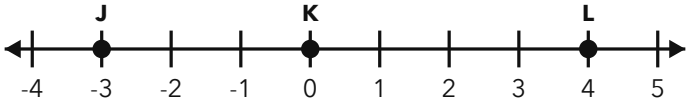
2 In a video game, Maya earns 2 1/2 points in one round and loses 3 1/4 points in the next round. Represent both changes and compare them. What does 0 mean?

WORK SPACE

ANSWER _____

CHALLENGE One step up

A hiking trail measures height relative to the trailhead. Each unit is 1 meter. Order J, K, and L from lowest to highest. Explain why K is neither above nor below the trailhead.



WORK SPACE AND ANSWER

ANSWER KEY

Above, Below, Zero

GRADE 6 · MA.6.NSO.1.2

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	A submarine is 3/4 mile below sea level. Write its position as a rational number.	**-3/4**
2	Order -2.5, 0, and 1/2 from least to greatest.	**-2.5, 0, 1/2**
3	A temperature is 4 degrees above 0. Write the rational number and compare it to 0.	**+4; +4 > 0**
4	Which is farther from zero, -6 or 5? Explain using distance from zero.	**-6; it is 6 units from zero, while 5 is 5 units from zero.**

PART 2 · APPLY IT

1. **A is -4 feet, or 4 feet below ground. B is +6 feet, or 6 feet above ground. B is higher. Zero means ground level.** Read each labeled point on the number line. Positive positions are above ground, and negative positions are below ground.
2. **+2 1/2 > -3 1/4. Zero means no change in points.** Use positive for points earned and negative for points lost. Any positive number is greater than any negative number.

CHALLENGE

J, K, L. J is -3 meters, K is 0 meters, and L is +4 meters. K is at the trailhead, so it is neither above nor below it.

Accept + signs as optional for positive numbers. Accept equivalent decimal or fraction forms when the value and comparison are correct.