LESSON MAKER PRO

Signs in Action

Use positive, negative, and zero in real situations.

GRADE 6 · 6.NS.C.5

CCSS.Math.Content.6.NS.C.5 "Understand that positive and negative numbers are used together to describe quantities having opposite directions or values (e.g., temperature above/below zero, elevation above/below sea level, credits/debits..."

NAME _____ DATE _____

POSITIVE, NEGATIVE, ZERO

Use a positive number for a quantity above, added, or in the chosen positive direction. Use a negative number for a quantity below, lost, or in the opposite direction. Zero means there is no amount or change from the reference point.

WORKED EXAMPLE

A drone is 72 meters above a field. Positions above the field are positive. Write the drone's position.

1. Above the field is the positive direction.
2. Write 72 with a plus sign: +72.

Answer: +72 meters

PRACTICE 6 problems

1 The temperature is 9 degrees below zero. Write the temperature as an integer.

ANSWER _____

2 A deposit adds 14 dollars to an account. Write the change as a signed number.

ANSWER _____

3 A diver is 30 meters below sea level. Write the diver's elevation.

ANSWER _____

4 A scoreboard shows 0 points gained or lost. What does 0 mean?

ANSWER _____

5 A balloon rises 16 meters from its starting point. Up is positive. Write the change in position.

ANSWER _____

6 An electric particle has a charge of -3 units. Is its charge positive or negative?

ANSWER _____

APPLY IT Show your work

1 At a skate park, an app measures position from the entrance. East is positive. Malik is 12 meters west of the entrance. Write Malik's position as a signed number. What would 0 mean?

WORK SPACE

ANSWER _____

2 In a gaming league, Priya earns 11 ranking points in one round and loses 11 ranking points in the next round. Write each change as a signed number. What does a change of 0 ranking points mean?

WORK SPACE

ANSWER _____

CHALLENGE One step up

An ocean research team records positions relative to sea level: buoy A is +4 meters, buoy B is -4 meters, and buoy C is 0 meters. Which two buoys are the same distance from sea level but in opposite directions? What does buoy C's 0 mean?

WORK SPACE AND ANSWER

ANSWER KEY

Signs in Action

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PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	The temperature is 9 degrees below zero. Write the temperature as an integer.	**-9 degrees**
2	A deposit adds 14 dollars to an account. Write the change as a signed number.	**+14 dollars**
3	A diver is 30 meters below sea level. Write the diver's elevation.	**-30 meters**
4	A scoreboard shows 0 points gained or lost. What does 0 mean?	**No points were gained or lost.**
5	A balloon rises 16 meters from its starting point. Up is positive. Write the change in position.	**+16 meters**
6	An electric particle has a charge of -3 units. Is its charge positive or negative?	**negative**

PART 2 · APPLY IT

1. **-12 meters; 0 means Malik is at the entrance.** West is the opposite of the positive east direction, so the position is -12 meters. A position of 0 is the reference point, the entrance.
2. **+11 points and -11 points; 0 means no change in ranking points.** Earning points is positive, so write +11. Losing points is negative, so write -11; 0 means the score did not change.

CHALLENGE

Buoys A and B; buoy C is at sea level.

Accept a positive value written without a plus sign when the context clearly shows it is positive. Accept equivalent wording for zero, such as “at the reference point” or “no change.”