LESSON MAKER PRO

Across Zero

Find opposites and explain what zero means.

GRADE 6 · 6.N.1.1

6.N.1.1 "Use manipulatives and models (e.g., number lines) to determine positive and negative numbers and their contexts, identify opposites, and explain the meaning of 0 (zero) in a variety of situations."

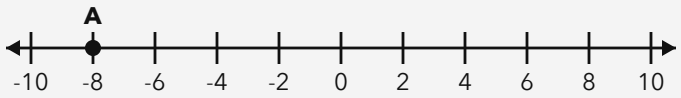
NAME _____ DATE _____

OPPOSITES ON A NUMBER LINE

Opposites are the same distance from 0 on different sides of a number line. To find a number's opposite, move the same distance from 0 in the other direction. Zero is the reference point, such as the entrance to a trail.

WORKED EXAMPLE

Point A is at -8. What is the opposite of A?

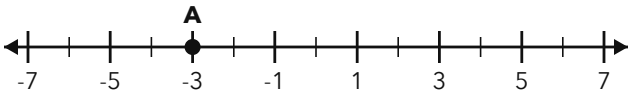


1. A is 8 units left of 0.
2. Move 8 units right of 0 to find the opposite.

Answer: +8

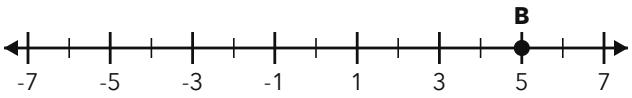
PRACTICE 6 problems

1 What number is the opposite of point A?



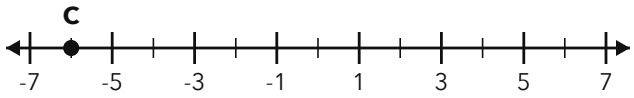
ANSWER _____

2 What number is the opposite of point B?



ANSWER _____

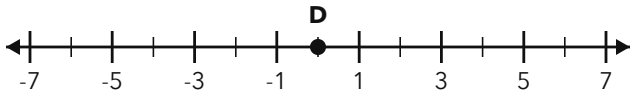
3 How far is point C from 0? Is C to the left or right of 0?



ANSWER _____

_____

4 What is the opposite of point D? Explain why it stays in the same place.



ANSWER _____

_____

5 A game score changes by -2 points. What change would cancel it out, making the total change 0?

ANSWER _____

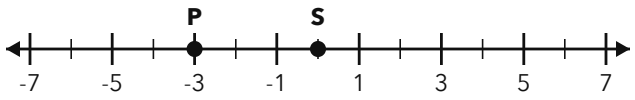
6 A submarine is 7 meters below sea level. Write its position as a signed number of meters. Then write the opposite position.

ANSWER _____

_____

APPLY IT Show your work

1 On this board-game track, P is a player's spot and S is the start. What number is P? What number is its opposite? What does 0 mean on this track?



ANSWER _____

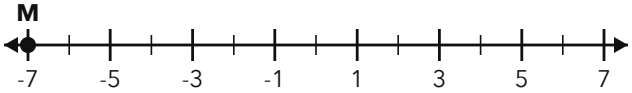
2 A science club measures a temperature 1°C below freezing. What is that temperature? What is its opposite temperature? What does 0°C mean here?

WORK SPACE

ANSWER _____

CHALLENGE One step up

Mira's score change is shown at M. Leo's score change is its opposite. What is Leo's change? How far apart are their changes on the number line? Explain why 0 is halfway between them.



WORK SPACE AND ANSWER

ANSWER KEY # Across Zero

GRADE 6 · 6.N.1.1

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	What number is the opposite of point A?	**+3**
2	What number is the opposite of point B?	**-5**
3	How far is point C from 0? Is C to the left or right of 0?	**6 units; left**
4	What is the opposite of point D? Explain why it stays in the same place.	**0; it is 0 units from 0, so its opposite is also 0.**
5	A game score changes by -2 points. What change would cancel it out, making the total change 0?	**+2 points**
6	A submarine is 7 meters below sea level. Write its position as a signed number of meters. Then write the opposite position.	**-7 meters; +7 meters**

PART 2 · APPLY IT

1. **P is at -3. Its opposite is +3. Zero is the starting spot.** Read P's position on the number line. Its opposite is the same distance from S on the other side.
2. **-1°C; +1°C; 0°C is the freezing point.** Below freezing is negative, so the measured temperature is -1°C. Its opposite is 1 degree above 0°C.

CHALLENGE

Leo's change is +7 points. The changes are 14 points apart. Zero is halfway because each change is 7 units from 0.

Accept answers without a plus sign for positive numbers. For explanations, accept any clear statement that opposites are equally far from 0 on opposite sides.