

Lesson 7-1

Reinforce Understanding

Explore Integers and Their Opposites

I can use integers to represent quantities in everyday life, explain what 0 means in each situation, and name the opposite of an integer on the number line.

Worked model

A submarine sits 47 meters below the surface of the water. Write an integer for its depth, then name the opposite.

1. Decide the direction. Below the surface is less than 0, so the integer is negative.
2. Write the integer with a negative sign. depth = -47
3. The opposite sits the same distance from 0 on the other side. 47
4. Check on a number line: one point is left of 0, one is right, both 47 units away.

Answer: The depth is -47 meters and its opposite is 47.

Practice

Complete each exercise. Show the reasoning that supports your answer.

1. Write the integer that represents each situation. Remember to decide what 0 means first.

Complete the table. Show how you found each value.

Situation	Integer
A football play with a 12-yard loss	
A hiker 250 meters above sea level	
7 degrees below zero	
A submarine resting at the surface of the water	

Show your work

2. Sort each integer by which side of 0 it sits on when you graph it on a number line.

Write the name of the correct group on each line.

Groups: Left of 0 (negative integer) Right of 0 (positive integer)

- _____ -86
- _____ 9
- _____ -9
- _____ 21
- _____ -3
- _____ 250