LESSON MAKER PRO

Zero Balance

Use opposite quantities to make zero.

GRADE 7 · 7.NS.A.1a

CCSS.Math.Content.7.NS.A.1a "Describe situations in which opposite quantities combine to make 0. For example, a hydrogen atom has 0 charge because its two constituents are oppositely charged."

NAME _____ DATE _____

OPPOSITES CANCEL

Opposite quantities have the same distance from 0 but different signs. When you add opposites, their total is 0 because one change undoes the other.

WORKED EXAMPLE

A game score changes by +14 points and then -14 points. What is the total score change?

1. Write the changes: +14 + (-14).
2. The quantities have equal size and opposite signs.
3. +14 + (-14) = 0.

Answer: 0 points

PRACTICE 6 problems

1 +9 + (-9) = ?

ANSWER _____

2 What quantity combines with -6.5 to make 0?

ANSWER _____

3 Complete the equation: +3/4 + ___ = 0

ANSWER _____

4 A diver moves -18 m, then +18 m. What is the total change in position?

ANSWER _____

5 Write an addition equation showing the opposite of -11 combining to make 0.

ANSWER _____

6 Does +5 + (-4) combine to make 0? If not, what is the sum?

ANSWER _____

APPLY IT Show your work

1 In a video game, Jordan earns 25 coins in one round and loses 25 coins in the next round. What is Jordan's total change in coins?

WORK SPACE

ANSWER _____

2 A drone rises 30 feet from its starting height, then descends 30 feet. What is the drone's total change in height?

WORK SPACE

ANSWER _____

CHALLENGE One step up

A student says that -8 + 8 + (-2) equals 0 because -8 and +8 cancel. Is the student correct? Explain, then find the sum.

WORK SPACE AND ANSWER

ANSWER KEY # Zero Balance

GRADE 7 · 7.NS.A.1a

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	+9 + (-9) = ?	**0**
2	What quantity combines with -6.5 to make 0?	**+6.5**
3	Complete the equation: +3/4 + ___ = 0	**-3/4**
4	A diver moves -18 m, then +18 m. What is the total change in position?	**0m**
5	Write an addition equation showing the opposite of -11 combining to make 0.	**-11 + 11 = 0**
6	Does +5 + (-4) combine to make 0? If not, what is the sum?	**No, the sum is 1.**

PART 2 · APPLY IT

1. **0 coins** Represent earning as +25 and losing as -25. Since they are opposites, +25 + (-25) = 0.
2. **0 feet** Represent the rise as +30 and the descent as -30. The opposite changes add to 0.

CHALLENGE

No. -8 and +8 combine to 0, and 0 + (-2) = -2.

Accept addition equations with the addends in either order. Accept positive quantities written with or without a plus sign when the meaning is clear.