

Adding and Subtracting Positive and Negative Numbers

Grade 7 math · Worksheet · Standards: 7.NS.A.1a, 7.NS.A.1b, 7.NS.A.1c, 7.NS.A.1d

Name: _____ Date: _____ Class: _____

These 20 problems cover standards 7.NS.A.1a to 7.NS.A.1d: opposites that sum to 0, adding on a number line, subtracting as adding the opposite, and distance as an absolute value.

Early problems use integers on a number line. Later ones use decimals and fractions in contexts such as temperature, elevation and bank balances.

Standards: 7.NS.A.1a, 7.NS.A.1b, 7.NS.A.1c, 7.NS.A.1d · **Level:** Grade 7

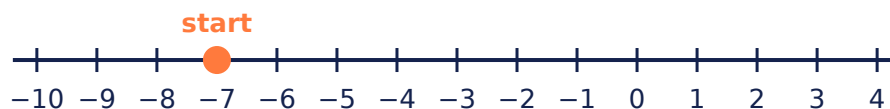
Problem 1 Opposites and Zero Sums (easy)

Write the opposite of each number, and show that each number and its opposite add to 0.

- a. 17
- b. -9
- c. 0
- d. -2.5

Problem 2 Adding on a Number Line (easy)

Use the number line to find $-7 + 9$.



Start at -7 and move 9 units right.

Problem 3 Adding Two Negatives (easy)

Find $-6 + (-7)$.

Problem 4 Mixed Signs (easy)

Find $12 + (-19)$.

Problem 5 Morning Warm-Up (easy)

At dawn the temperature is -4°F . It rises 11°F by noon. What is the temperature at noon?

Problem 6 Account Deposit (easy)

A bank account has a balance of $-\$25$. A deposit of $\$60$ is made. What is the new balance?

Problem 7 Subtracting a Larger Number (medium)

Find $5 - 12$ by rewriting it as an addition.

Problem 8 Three Subtractions (medium)

Evaluate each expression.

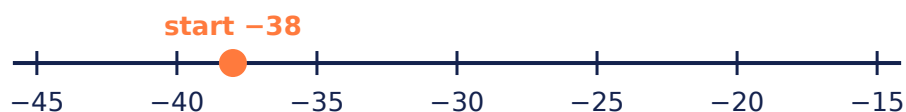
- a. $-9 - 4$
- b. $-9 - (-4)$
- c. $9 - (-4)$

Problem 9 Adding the Opposite (medium)

Rewrite $-15 - (-22)$ as an addition problem and evaluate it.

Problem 10 Diver's Elevation (medium)

A diver is at -38 feet. She rises 15 feet and then descends 20 feet. What is her final elevation?



Elevation in feet; the diver starts at -38 .

Problem 11 Decimal Sums and Differences (medium)

Find each value.

a. $-3.7 + 5.2$

b. $-2.4 - 1.9$

Problem 12 Fraction Sums and Differences (medium)

Find each value.

a. $-\frac{3}{4} + \frac{1}{2}$

b. $\frac{1}{3} - \frac{5}{6}$

Problem 13 Distance Between Two Points (medium)

Find the distance between -13 and 8 on the number line.



How far apart are -13 and 8 ?

Problem 14 Distance with Decimals (medium)

Find the distance between -5.5 and -2.25 on a number line.

Problem 15 Temperature Changes in a Day (hard)

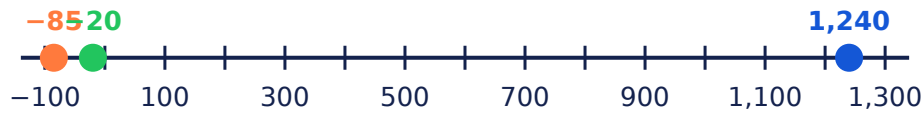
The temperature in a mountain town was -9°F at 6 AM, 14°F at noon, and -6°F at midnight. Find the change from 6 AM to noon, from noon to midnight, and from 6 AM to midnight.

Problem 16 Checking Account Balance (hard)

An account starts at \$75.20. A purchase of \$98.60 is made, then a deposit of \$50.00, then a fee of \$12.50. Find the balance after each step and the final balance.

Problem 17 Hiker's Elevation (hard)

A hiker starts at an elevation of -85 feet, climbs to 1,240 feet, and then descends to -20 feet. Find the change in elevation on the climb, on the descent, and from the start to the end.



Elevations for Problem 17.

Problem 18 Missing Numbers (hard)

Find the missing number in each equation.

- a. $-14 + ? = 6$
- b. $? - (-9) = -3$
- c. $8 - ? = 15$

Problem 19 Football Yard Line (hard)

A team's plays gain or lose yards: $+7$, -12 , $+5$, -9 , $+14$, -3 . Find the team's position relative to the starting line after each play, and the lowest position reached.

Problem 20 Submarine Depth (hard)

A research submarine is at -85.5 meters. It rises 32.75 meters, then dives 60.25 meters. Find its final depth and the distance between its final position and its starting position.