

Grade 7 · Adding and Subtracting Integers and Rational Numbers · Worksheet

Common Core 7.NS.A.1a, 7.NS.A.1b, 7.NS.A.1c, 7.NS.A.1d · mathovore.fr

Name: _____ Date: ____/____/____ Score: _____

These 20 problems practice adding and subtracting integers, decimals, and fractions, including opposites, number line models, and distance between two numbers (Common Core 7.NS.A.1). They move from basic sums to word problems about temperature, elevation, golf scores, football yardage, and money.

Show every step and give each answer with its sign and units.

Grade 7 Common Core: 7.NS.A.1a · 7.NS.A.1b · 7.NS.A.1c · 7.NS.A.1d

Problem 1: Opposites and Zero

Write the opposite of each number.

- a. 9
- b. -15
- c. 2.5
- d. 0

Then find the number that makes the sum zero: $-23 + \underline{\hspace{1cm}} = 0$.

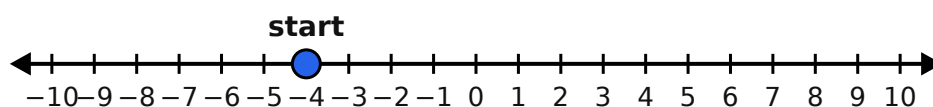
Problem 2: Opposites in real life

Write an integer for each situation. Then write its opposite and tell what the opposite means.

- a. A hiker is 15 ft above sea level.
- b. Priya loses \$9 in a game.
- c. The temperature drops 6°F .

Problem 3: Adding on a Number Line

Start at -4 on the number line. Find each sum by moving the correct number of units.

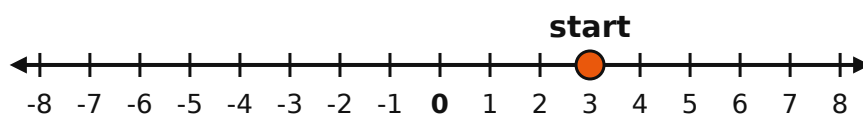


Start point -4 .

- a. $-4+7$
- b. $-4+(-3)$
- c. $-4+4$
- d. $-4+(-6)$

Problem 4: Jumping from three

Start at 3 on the number line. Find each result by moving the correct number of units.



Start point 3.

- a. $3+(-8)$
- b. $3-6$
- c. $3-(-4)$

Problem 5: Adding Integers

Find each sum.

- a. $-9+4$
- b. $6+(-11)$
- c. $-7+(-5)$
- d. $15+(-15)$
- e. $-20+35$

Problem 6: More sums of integers

Find each sum.

- a. $-13+(-8)$
- b. $17+(-6)$
- c. $-25+9$
- d. $-4+(-19)$
- e. $-31+50$

Problem 7: Subtracting Integers

Rewrite each subtraction as addition, then find the difference.

- a. $9-14$
- b. $-6-8$
- c. $5-(-7)$
- d. $-10-(-4)$
- e. $0-(-13)$

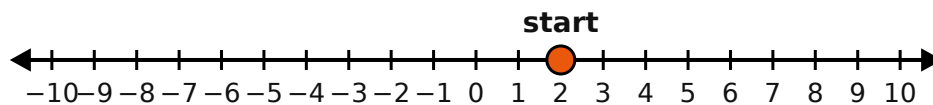
Problem 8: More differences

Rewrite each subtraction as addition, then find the difference.

- a. $8-15$
- b. $-12-5$
- c. $7-(-9)$
- d. $-14-(-14)$
- e. $-20-(-35)$

Problem 9: Subtracting on a Number Line

Start at 2. Use the number line to find each difference.



Start point 2.

- a. $2-9$
- b. $2-(-5)$
- c. Write $2-9$ as an addition problem.

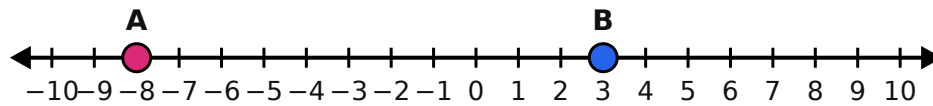
Problem 10: Three terms

Evaluate each expression from left to right.

- a. $-8+15+(-12)$
- b. $6-(-4)-13$
- c. $-7-(-9)+(-3)$

Problem 11: Distance on a Number Line

Points A and B are plotted.

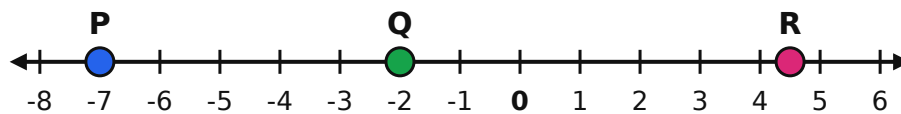


Points A and B .

- Find the distance between A and B .
- Find the distance between -5 and -12 .
- Find the distance between -4.5 and 2.5 .
- Show that $|-8-3|=|3-(-8)|$.

Problem 12: Distances between points

Points P , Q , and R are plotted on the number line.



Points P , Q , and R .

- Find the distance between P and Q .
- Find the distance between Q and R .
- Find the distance between P and R .
- Point S is 3.5 units to the left of P . Find the coordinate of S .

Problem 13: Mixed number types

Evaluate each expression.

- $-1.25+3.5-(-2.75)$
- $-\frac{5}{6}-\frac{1}{3}+\frac{1}{2}$
- The distance between $-\frac{2}{3}$ and $1\frac{1}{2}$

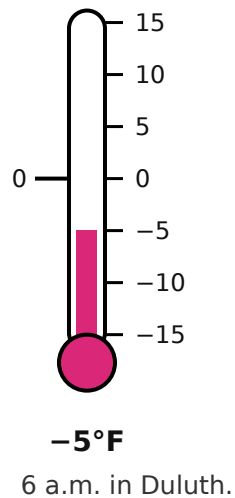
Problem 14: Fractions and Decimals

Evaluate each expression.

- $-\frac{3}{4}+\frac{1}{2}-(-\frac{5}{4})$
- $-2.6-(-5.4)+(-1.8)$
- The distance between -2.5 and $\frac{3}{2}$

Problem 15: Temperature Change

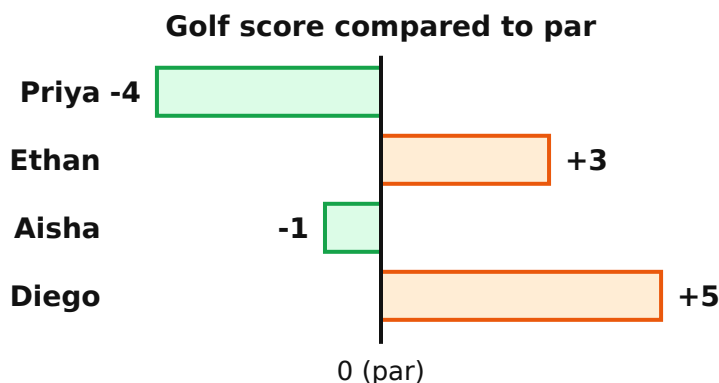
At 6 a.m. the temperature in Duluth was as shown on the thermometer. By noon it had risen 12°F . By 6 p.m. it had dropped 9°F .



- Find the noon temperature.
- Find the 6 p.m. temperature.
- By midnight the temperature was -11°F . Write a subtraction expression for the change from 6 p.m. to midnight and evaluate it.

Problem 16: Golf scores

In golf, a lower score is better. The chart shows four friends' scores compared to par after one round. A score of -4 means 4 strokes under par.



Scores below par are negative and scores above par are positive.

- Find the difference between the highest score and the lowest score.
- Find how many strokes Aisha's score is below Ethan's score.
- In round 2, Aisha improves by 4 strokes, so her score drops by 4 from round 1. Find her round 2 score.

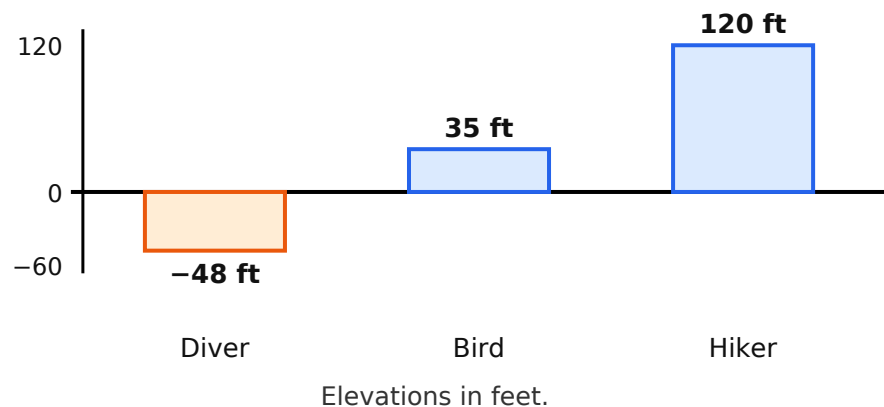
Problem 17: Yards gained and lost

In a football game, Ethan's team runs four plays in a row. The first play gains 7 yards, the second loses 12 yards, the third gains 5 yards, and the fourth loses 9 yards.

- Write an expression for the net yardage and evaluate it.
- How many more yards must the team gain on the next play to have a net gain of 10 yards for the series?

Problem 18: Elevation Differences

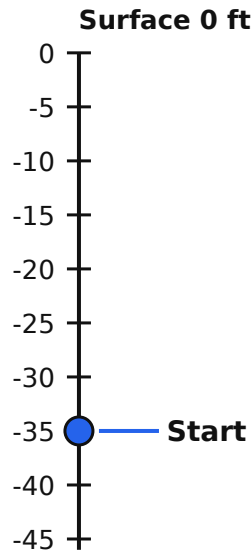
The chart shows the elevation of a scuba diver, a bird, and a hiker, measured from sea level.



- Find the vertical distance between the bird and the diver.
- Find the vertical distance between the hiker and the diver.
- The diver swims up 30 ft. Find the new elevation.
- How far below the bird is the diver now?

Problem 19: Scuba dive

Aisha is scuba diving at an elevation of -35 ft (35 feet below the surface). She swims up 12 ft, then down 20 ft, then up 15 ft.



Aisha starts at -35 ft.

- Find her elevation after each move.
- How many feet below the surface is she at the end?
- Find the distance between her starting elevation and her ending elevation.

Problem 20: Bank Balance

Sofia's account balance was \$45.50. The receipt lists her next three transactions.

Account activity	

Gym check	-\$72.25
Deposit	+\$30.00
Overdraft fee	-\$5.75

Three transactions.

- Find the balance after each transaction, in order.
- How much must Sofia deposit to bring the balance back to \$0?