

Negative Numbers, Opposites and Absolute Value

Grade 6 math · Worksheet · Standards: 6.NS.C.5, 6.NS.C.6a, 6.NS.C.7

Name: _____ Date: _____ Class: _____

These 20 problems cover standards 6.NS.C.5, 6.NS.C.6a and 6.NS.C.7: using positive and negative numbers in context, finding opposites, placing rational numbers on a number line, and comparing them with absolute value.

Problems progress from reading a number line to ordering elevations and balances. The last six are word problems, so read each situation carefully and decide which direction counts as negative.

Standards: 6.NS.C.5, 6.NS.C.6a, 6.NS.C.7 · **Level:** Grade 6

Problem 1 Writing signed numbers (easy)

Write a positive or negative number for each situation.

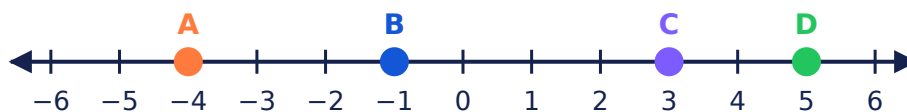
- a. 8 °F below zero
- b. A deposit of \$35
- c. 40 feet above sea level
- d. A debt of \$12

Problem 2 Finding opposites (easy)

Write the opposite of each number: 14, -9 , 0, 3.5.

Problem 3 Reading a number line (easy)

Name the number shown by each of the points A, B, C and D.



Points A, B, C and D.

Problem 4 Comparing integers (easy)

Write $<$, $>$ or $=$ in each blank.

- a. -3 ___ 2

- b. -7 ___ -4
c. 0 ___ -1
d. -2.5 ___ -2.50

Problem 5 Absolute values (easy)

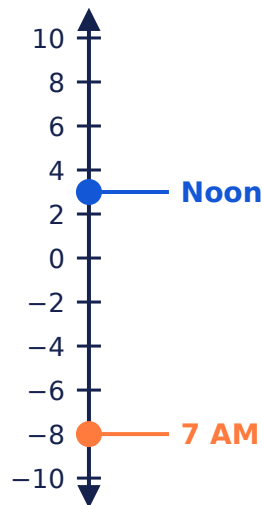
Evaluate: $|-12|$, $|8|$, $|0|$ and $|-3.5|$.

Problem 6 Ordering integers (easy)

Arrange 9, -3 , -8 , 2, -1 from least to greatest.

Problem 7 Thermometer readings (medium)

The thermometer shows the temperature at 7 AM and at noon. Which reading is lower, and how many degrees did the temperature rise?



Thermometer readings at 7 AM and noon ($^{\circ}\text{F}$).

Problem 8 Ordering rational numbers (medium)

Order from least to greatest: $\frac{1}{2}$, $-\frac{3}{4}$, -1.25 , 0.2.

Problem 9 Opposite of an opposite (medium)

Simplify each expression: $-(-8)$, $-(-(-3))$, $-|-6|$ and $-(5)$.

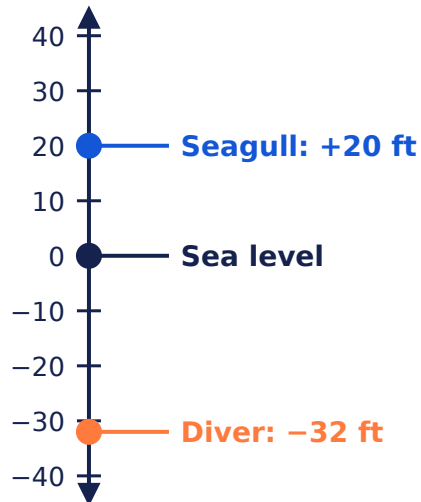
Problem 10 Absolute value comparisons (medium)

Write $<$, $>$ or $=$ in each blank.

- a. $|-9|$ ___ $|5|$
b. -9 ___ 5
c. $|-4|$ ___ $|4|$
d. $-|-2|$ ___ $|-2|$

Problem 11 Closer to sea level (medium)

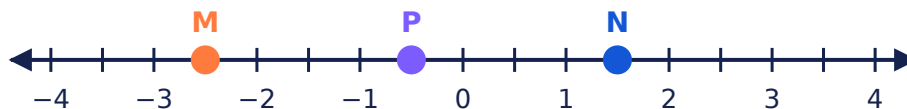
A diver is at -32 feet and a seagull is at $+20$ feet. Which one is closer to sea level? Use absolute value.



Elevations relative to sea level.

Problem 12 Half-unit number line (medium)

Find the value of each of the points M, P and N.



Points M, P and N (ticks every 0.5).

Problem 13 Ordering elevations (medium)

Order these elevations from lowest to highest: Dry Gulch Basin, -186 ft; Pelican Bay, 0 ft; Cedar Ridge, 940 ft; Salt Sink, -54 ft.

Problem 14 Same distance from zero (medium)

Two points on a number line are each 7 units from 0. What numbers do they show, and how are the numbers related?

Problem 15 Daily low temperatures (medium)

The low temperatures this week were: Monday -4 °F, Tuesday 6 °F, Wednesday -11 °F, Thursday 0 °F, Friday -2 °F. Which day was coldest, and what is the order from warmest to coldest?

Problem 16 Trivia game scores (hard)

In a trivia game, Priya has -15 points, Omar has -25 , Luis has 10 and Kai has -5 . Who is

winning? List the players from first to last place, and tell whose score is farthest from 0.

Problem 17 Ocean and sky (hard)

A submarine is at -240 feet, a plane at $3,600$ feet, a whale at -75 feet and a gull at 90 feet. Order the four from lowest to highest, then say which one is closest to sea level.

Problem 18 Mirror points (hard)

A point on a number line is 4.5 units to the left of 0 . A second point is its opposite. Write both numbers and their absolute values, then explain why the absolute values match.

Problem 19 Account balances (hard)

Four account balances are: Mia $-\$8.50$, Ben $\$0$, Zoe $-\$12.25$ and Eli $\$3.75$. Order them from least to greatest and tell who owes the most money.

Problem 20 True or false (hard)

Decide whether each statement is true or false, and justify it with an example.

- Every negative number is less than every positive number.
- If $|a| > |b|$, then $a > b$.
- The opposite of a positive number is negative.
- An absolute value is never negative.