

Grade 7 - Solving Real-World Problems with Rational Numbers - Quiz

Common Core 7.NS.A.3 · maths-pdf.fr/en/

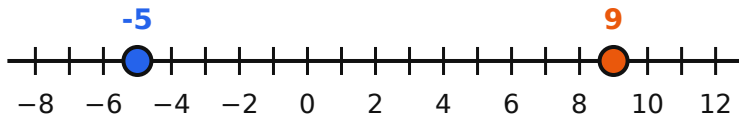
Name: _____ Class: _____ Date: ____/____/____

Answer all 10 multiple-choice questions on real-world problems with the four operations on integers, fractions, and decimals, including temperature, elevation, money, and complex fractions. Pick the single best answer, then read the explanation to see why it is right and which common mistake each wrong choice shows. A score of 8 or more means you are ready for the test.

Grade 7 · Common Core State Standards: **7.NS.A.3**

Questions

Question 1



The temperature changes from -5°F to

9°F . What is the change?

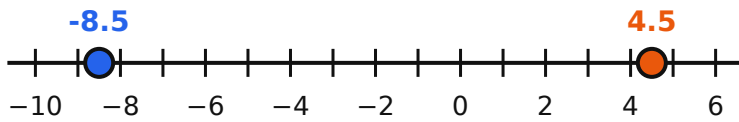
- A. 4 degrees
- B. 14 degrees
- C. -14 degrees
- D. -4 degrees

Question 2

A balance of $-\$12$ gets a deposit of $\$30$. What is the new balance?

- A. $\$18$
- B. $-\$42$
- C. $\$42$
- D. $-\$18$

Question 3



What is the distance between -8.5 feet

and 4.5 feet?

- A. 4 feet
- B. -13 feet
- C. -4 feet
- D. 13 feet

Question 4

What is $(\frac{2}{3}) \div (\frac{4}{9})$?

- A. $\frac{3}{2}$
- B. $\frac{1}{2}$
- C. $\frac{2}{3}$
- D. $\frac{3}{4}$

Question 5

Tank	$\frac{3}{8}$	left
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A tank holds 24 gallons. If $\frac{3}{8}$ is used, how many

gallons are left?

- A. 9 gallons
- B. $\frac{3}{8}$ gallon
- C. 15 gallons
- D. 21 gallons

Question 6

A hiker descends 1.5 feet each minute for 8 minutes. The signed change is:

- A. 12 feet
- B. -12 feet
- C. -9.5 feet
- D. -6.5 feet

Question 7

What is the mean of -6 , 2.5 , and -1.5 ?

- A. -5
- B. $-\frac{5}{3}$
- C. $\frac{5}{3}$

D. -3

Question 8

Three friends share a debt of \$45. Which expression gives each person's signed share?

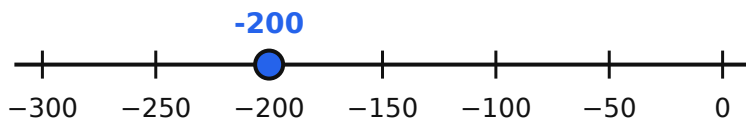
- A. $-45 \div 3$
- B. -45×3
- C. $45 - 3$
- D. $-45 + 3$

Question 9

Which is greater, -3.5 or $-3\frac{1}{4}$?

- A. -3.5
- B. They are equal
- C. $-3\frac{1}{4}$
- D. Not enough information

Question 10



A submarine at -200 feet rises 75 feet.

Where is it now?

- A. -275 feet
- B. 125 feet
- C. 275 feet
- D. -125 feet

Answers

1. **B** - $9 - (-5) = 14$. Subtracting the sizes gives 4.
2. **A** - $-12 + 30 = 18$. A deposit moves the balance up.
3. **D** - $|4.5 - (-8.5)| = 13$. Distance is positive.
4. **A** - $\frac{2}{3} \times \frac{9}{4} = \frac{18}{12} = \frac{3}{2}$. Multiply by the reciprocal.
5. **C** - Used is $24 \times \frac{3}{8} = 9$, so $24 - 9 = 15$ gallons remain.
6. **B** - $-1.5 \times 8 = -12$. A descent is negative.
7. **B** - The sum is -5 and $-5 \div 3 = -\frac{5}{3}$. Dividing by 2 is a mistake.
8. **A** - Equal sharing means division, and a debt is negative.
9. **C** - On the number line $-3\frac{1}{4}$ is to the right of -3.5 , so it is greater.
10. **D** - $-200 + 75 = -125$. Rising adds.

Remember

- Positive and negative numbers show opposite directions, such as gains and losses.
- The change from a to b is $b - a$; the distance between them is $|b - a|$.
- Fraction bars mean division, so a complex fraction is a division problem.
- Convert fractions and decimals to one form before combining them.
- Check every answer with an estimate and the correct units.