

Grade 7 · Rational Numbers: Decimals, Fractions and Word Problems · Quiz

Common Core 7.NS.A.2d, 7.NS.A.3 · mathovore.fr

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

Try these 10 multiple-choice questions on converting fractions to decimals and on adding, subtracting, multiplying and dividing rational numbers in real situations. Watch the signs, and check whether each decimal stops or repeats.

Grade 7 Common Core: 7.NS.A.2d · 7.NS.A.3

Questions

Question 1

What is $\frac{3}{8}$ written as a decimal?

- A. 0.38
- B. 2.67
- C. 0.375
- D. 0.125

Question 2

Which fraction is a repeating decimal?

- A. $\frac{3}{8}$
- B. $\frac{7}{20}$
- C. $\frac{5}{12}$
- D. $\frac{9}{25}$

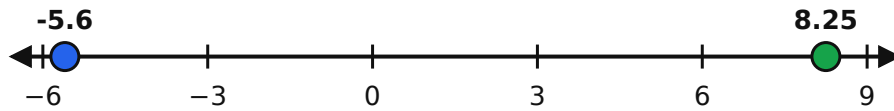
Question 3

What is $\frac{2}{9}$ as a decimal?

- A. 0.2
- B. 0.29
- C. 4.5
- D. $0.\bar{2}$

Question 4

What is $-5.6 + 8.25$?



The two numbers on a number line.

- A. 2.65
- B. -2.65
- C. 13.85
- D. -13.85

Question 5

Evaluate $-\frac{3}{4} - (-\frac{1}{2})$.

- A. $-\frac{5}{4}$
- B. $\frac{1}{4}$
- C. $\frac{5}{4}$
- D. $-\frac{1}{4}$

Question 6

Evaluate $(-\frac{2}{3})(-\frac{9}{4})$.

- A. $-\frac{3}{2}$
- B. $\frac{3}{2}$
- C. $\frac{8}{27}$
- D. $\frac{35}{12}$

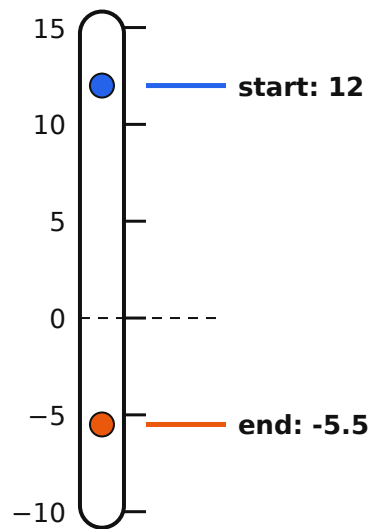
Question 7

Evaluate $(-7.2) \div (-0.9)$.

- A. -8
- B. 8
- C. 0.8
- D. 80

Question 8

The temperature changes from 12°F to -5.5°F . What is the change?



Two temperatures in degrees F.

- A. 6.5°F
- B. -6.5°F
- C. 17.5°F
- D. -17.5°F

Question 9

An account balance is $-\$20.50$. After a deposit of $.25$, what is the balance?

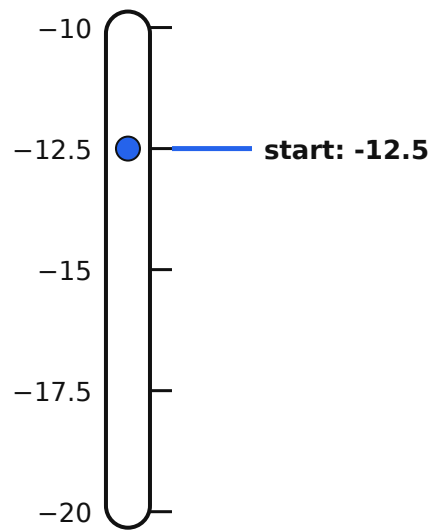
Event	Amount
Starting balance	$-.50$
Deposit	$+.25$
New balance	?

The account.

- A. $\$14.75$
- B. $\$55.75$
- C. $-\$14.75$
- D. $\$15.75$

Question 10

A diver at -12.5 ft goes down another $3\frac{1}{4}$ ft. What is her new depth?



Starting depth in feet.

- A. -15.75 ft
- B. -9.25 ft
- C. 15.75 ft
- D. -15.25 ft

Answer key

1. **C** - Divide $3 \div 8$: $30 \div 8 = 3$ r 6, $60 \div 8 = 7$ r 4, $40 \div 8 = 5$. The result is 0.375. Dividing $8 \div 3$ gives 2.67 instead.
2. **C** - 12 has the prime factor 3, so $\frac{5}{12} = 0.41\bar{6}$ repeats. The denominators 8, 20 and 25 use only the factors 2 and 5, so they terminate.
3. **D** - $20 \div 9 = 2$ r 2, and the remainder 2 repeats, so $\frac{2}{9} = 0.\bar{2}$. Writing 0.2 stops the decimal too soon, and 4.5 is $9 \div 2$.
4. **A** - The signs differ, so subtract: $8.25 - 5.6 = 2.65$, and the sign is that of the larger absolute value (positive). Adding the absolute values gives 13.85.
5. **D** - Subtracting a negative adds: $-\frac{3}{4} + \frac{2}{4} = -\frac{1}{4}$. Using $-\frac{3}{4} - \frac{1}{2}$ gives $-\frac{5}{4}$.
6. **B** - Multiply: $\frac{18}{12} = \frac{3}{2}$, positive because the signs are the same. $\frac{8}{27}$ comes from dividing, and $\frac{35}{12}$ from adding.
7. **B** - $7.2 \div 0.9 = 8$, and two negatives give a positive. A slipped decimal point gives 0.8 or 80.
8. **D** - Change = end - start = $-5.5 - 12 = -17.5$. The change is negative because the temperature fell; 17.5 forgets the direction.
9. **A** - $-20.50 + 35.25 = 14.75$: the larger absolute value is positive. Adding 20.50 and 35.25 gives \$55.75, which ignores the debt.
10. **A** - Going down is negative: $-12.5 - 3.25 = -15.75$. Adding 3.25 gives -9.25 , which moves the diver up instead of down.

Remember:

- Every rational number is a terminating or a repeating decimal.
- Convert $\frac{a}{b}$ by dividing a by b ; a remainder of 0 means the decimal terminates.
- A repeated remainder means a repeating decimal, written with a bar: $\frac{5}{11} = 0.\overline{45}$.
- Subtracting a number is adding its opposite: $a - b = a + (-b)$.
- Multiplying or dividing two numbers with the same sign gives a positive result; with different signs, a negative result.