

Grade 7 - Adding and Subtracting Rational Numbers - Test Answer Key

Common Core 7.NS.A.1 · maths-pdf.fr/en/

Use this answer key and scoring guide to grade the adding rational numbers test. Each solution shows the full work, and the scoring note explains how the points are awarded. Give partial credit for correct steps even when the final answer is wrong.

Grade 7 · Common Core State Standards: **7.NS.A.1**

Question 1 - Integer sums [2 pts]

- a. $-14+9=-5$
- b. $6-(-8)=6+8=14$
- c. $-11-5=-16$
- d. $-7+(-13)=-20$

-5, 14, -16, -20

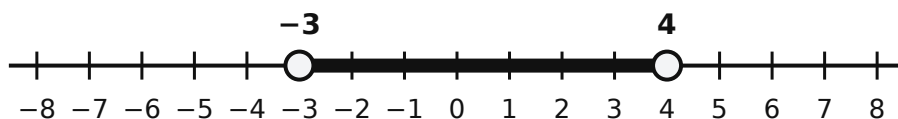
Scoring: Half a point for each correct value (round the total up).

Question 2 - Number line model [2 pts]

Start at -3 and move 7 units right.

$$-3+7=4$$

4



The move ends at 4.

Scoring: 1 point for the correct direction and length of the move; 1 point for the sum.

Question 3 - Decimals [2 pts]

a. $-4.8 + 2.35 = -2.45$

b. $-0.6 - 1.75 = -2.35$

-2.45; -2.35

Scoring: 1 point for each.

Question 4 - Fractions [2 pts]

a. $-\frac{8}{12} + \frac{9}{12} = \frac{1}{12}$

b. $\frac{3}{6} + \frac{5}{6} = \frac{8}{6} = \frac{4}{3} = 1\frac{1}{3}$

$\frac{1}{12}; 1\frac{1}{3}$

Scoring: 1 point for each.

Question 5 - Distance [2 pts]

$$|4 - (-5)| = |9| = 9$$

9 units

Scoring: 1 point for the expression; 1 point for the value.

Question 6 - Additive inverse [2 pts]

The other number is the opposite of -6.2 , which is 6.2 .

Both numbers are 6.2 units from 0 on opposite sides, so the sum is 0.

6.2

Scoring: 1 point for 6.2; 1 point for the explanation.

Question 7 - Mixed operations [2 pts]

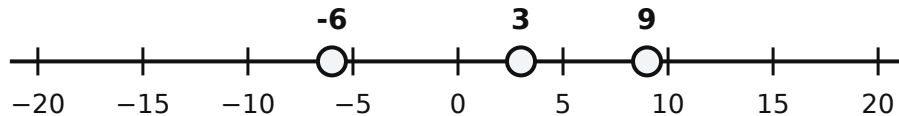
Common denominator 12: $-\frac{9}{12} + \frac{18}{12} - \frac{8}{12} = \frac{1}{12}$

$\frac{1}{12}$

Scoring: 1 point for common denominators; 1 point for the final value.

Question 8 - Temperature story [3 pts]

- a. $-6 + 15 = 9^{\circ}\text{F}$.
- b. $9 - 6 = 3^{\circ}\text{F}$.
- c. $3 - (-6) = 9$ degrees higher.



Temperatures at 9 a.m., noon and 6 p.m.

Scoring: 1 point for each part.

Question 9 - Lunch account [3 pts]

$25.00 - 18.75 = 6.25$; $6.25 - 12.40 = -6.15$; $-6.15 + 20.00 = 13.85$.

Wednesday: overdrawn by \$6.15.

Day	Change	Balance
Mon	start	\$25.00
Tue	-\$18.75	\$6.25
Wed	-\$12.40	-\$6.15
Thu	+\$20.00	\$13.85

Completed balances.

Scoring: 1 point for each correct balance after the first (3 points total); award all 3 points if the overdraft is also named, otherwise deduct nothing but note it.

Total

20 points