

Grade 7 - Solving Real-World Problems with Rational Numbers - Test Answer Key

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

Use this answer key and scoring guide to grade the rational number problems 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.3**

Question 1 - Temperature change [2 pts]

$$8 - (-7) = 15$$

15 degrees higher

Scoring: 1 point for the correct operation; 1 point for the answer.

Question 2 - Checking account [2 pts]

$$-23.40 + 50 = 26.60; 26.60 - 19.85 = 6.75$$

\$6.75

Scoring: 1 point for each step.

Question 3 - Complex fraction [2 pts]

$$\frac{7}{2} \times \frac{8}{21} = \frac{56}{42} = \frac{4}{3}$$

$$1\frac{1}{3}$$

Scoring: 1 point for multiplying by the reciprocal; 1 point for the simplified value.

Question 4 - Descent [2 pts]

$$-4.5 \times 6 = -27.$$

$$80 + (-27) = 53$$

-27 feet; 53 feet

Scoring: 1 point for the change; 1 point for the final height.

Question 5 - Mixed fractions [2 pts]

$$-\frac{10}{12} + \frac{8}{12} - \frac{3}{12} = -\frac{5}{12}$$

$$-\frac{5}{12}$$

Scoring: 1 point for a common denominator; 1 point for the value.

Question 6 - Bake sale [2 pts]

$$32.50 - 8.75 + 15.25 - 4.00 = 35; 35 \div 4 = 8.75$$

Total \$35.00; mean \$8.75

Scoring: 1 point for the total; 1 point for the mean.

Question 7 - Distance apart [2 pts]

$$|27.25 - (-18.5)| = 45.75$$

45.75 meters

Scoring: 1 point for the setup with absolute value or addition; 1 point for the value.

Question 8 - Pool [3 pts]

a. $30000 \times \frac{2}{5} = 12000$ gallons.

b. $30000 \times \frac{1}{6} = 5000$, so $12000 - 5000 = 7000$ gallons are left.

c. -5000 gallons.

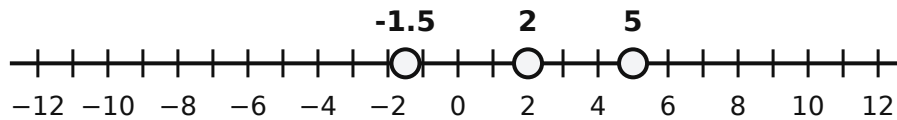
Part	Gallons
Filled (2/5)	12,000
Rest	18,000
After draining 1/6 of full pool	13,000

Results.

Scoring: 1 point for each part.

Question 9 - Weather [3 pts]

- $5 - 3.25 \times 2 = 5 - 6.5 = -1.5^\circ\text{F}$.
- $-1.5 + 3.5 = 2^\circ\text{F}$.
- $2 - 5 = -3$ degrees.



Temperatures after the fall and after the rise.

Scoring: 1 point for each part.

Total

20 points