LESSON MAKER PRO

Rational Reality Check

Solve, convert, and estimate with rational numbers.

GRADE 7 · 7.EE.B.3

CCSS.Math.Content.7.EE.B.3 "Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically..."

NAME _____ DATE _____

CHOOSE A USEFUL FORM

When a problem uses decimals, fractions, and negative numbers, choose a form that makes the calculations easier. Follow the order of operations, then use a quick estimate to check whether your answer makes sense.

WORKED EXAMPLE

Calculate: -4.8 + 2.35 - 1.5

1. -4.80 + 2.35 = -2.45.
2. -2.45 - 1.50 = -3.95.
3. The result is negative, which makes sense because the negative amounts are larger.

Answer: -3.95

PRACTICE 6 problems

1 Calculate: -3.6 + 5.25 - 2.4

ANSWER _____

2 Estimate, then calculate: 7/8 - 1/3 + 1/4

ANSWER _____

3 Calculate: -2.5 + 3/4 - 1.1

ANSWER _____

4 Calculate: 6.4 + (-0.7) x 3

ANSWER _____

5 Calculate: -2 1/4 + 5/6 - 1/3

ANSWER _____

6 The temperature is -1.75 degrees. It rises 2.6 degrees and then falls 0.9 degrees. What is the final temperature?

ANSWER _____

APPLY IT Show your work

1 Estimate, then calculate. Kai has $18.60 in a game-download account. Kai buys 3 add-ons for $2.75 each and receives a $1.20 refund for an earlier purchase. How much money is in the account now?

WORK SPACE

ANSWER _____

2 In a tournament game, a player's score starts at -12.5 points after a penalty. The player earns 4 3/4 points in each of 3 rounds, then loses 2.25 points for a rule violation. What is the final score?

WORK SPACE

ANSWER _____

CHALLENGE One step up

A club's account balance is -$16.80. The club sells 7 snack cards for $3.25 each. Then the club uses 1/5 of its sales money to buy supplies. What is the new account balance? Explain why your answer is reasonable using an estimate.

WORK SPACE AND ANSWER

ANSWER KEY

Rational Reality Check

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PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	Calculate: -3.6 + 5.25 - 2.4	**-0.75**
2	Estimate, then calculate: 7/8 - 1/3 + 1/4	**Estimate: about 1; exact answer: 19/24**
3	Calculate: -2.5 + 3/4 - 1.1	**-2.85**
4	Calculate: 6.4 + (-0.7) x 3	**4.3**
5	Calculate: -2 1/4 + 5/6 - 1/3	**-1 3/4**
6	The temperature is -1.75 degrees. It rises 2.6 degrees and then falls 0.9 degrees. What is the final temperature?	**-0.05 degrees**

PART 2 · APPLY IT

1. **$11.55** The add-ons cost 3 x $2.75 = $8.25. Calculate $18.60 - $8.25 + $1.20 = $11.55; an estimate of about $12 is reasonable.
2. **-0.5 points** The player earns 3 x 4.75 = 14.25 points. Calculate -12.5 + 14.25 - 2.25 = -0.5.

CHALLENGE

$1.40

Accept equivalent decimal and fraction forms where appropriate, such as -1.75 for -1 3/4. Accept reasonable estimates that support the exact answer.