LESSON MAKER PRO

Signed Number Moves

Solve, then check if your answer makes sense.

GRADE 7 · 7.AF.B.8

7.AF.B.8 "Solve multi-step real-world and mathematical problems involving rational numbers (integers, signed fractions and decimals), converting between forms as needed..."

NAME _____ DATE _____

COMBINE AND CHECK

Follow the order of operations, and rewrite fractions and decimals in a form you can combine. Keep track of positive and negative signs, then use an estimate to check whether your answer is reasonable.

WORKED EXAMPLE

Evaluate -1.4 + 3/5 - (-2.1).

1. Rewrite 3/5 as 0.6.
2. Subtracting -2.1 means adding 2.1: -1.4 + 0.6 + 2.1.
3. Combine: -0.8 + 2.1 = 1.3.
4. Check: Adding 2.1 to -0.8 should give a positive result.

Answer: 1.3

PRACTICE 6 problems

1 Evaluate -4.6 + 1.9 - (-0.8).

ANSWER _____

2 Evaluate 5/6 - (-1/3) + (-1/2).

ANSWER _____

3 Evaluate (-2/5) × 10 + 1.7.

ANSWER _____

4 Evaluate 6.3 ÷ (-0.9) + 2/7.

ANSWER _____

5 Estimate to the nearest whole number, then find the exact value of -7.8 + 2/3 + 4.1.

ANSWER _____

6 Evaluate (-1/4 - 0.5) × (-8).

ANSWER _____

APPLY IT Show your work

1 In a rhythm game, Sam starts a round with -2.5 points after a penalty. Sam earns 1 3/4 points on each of 4 songs, then loses 0.8 points for a missed beat. What is Sam's final score? Use an estimate to check it.

WORK SPACE

ANSWER _____

2 Your club has $18.60 in its snack fund. It buys 3 drinks for $2.35 each and receives a $1.25 refund for a returned snack. How much is in the fund now? Estimate to check.

WORK SPACE

ANSWER _____

CHALLENGE One step up

A team's tournament point total is -4.50 after penalties. It earns 2 1/4 points in each of 3 rounds, then loses 1.20 points. A player claims the final total is 3.45 points. Is the claim correct? Find the exact total and use an estimate to explain.

WORK SPACE AND ANSWER

ANSWER KEY

Signed Number Moves

GRADE 7 · 7.AF.B.8

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	Evaluate -4.6 + 1.9 - (-0.8).	**-1.9**
2	Evaluate 5/6 - (-1/3) + (-1/2).	**2/3**
3	Evaluate (-2/5) × 10 + 1.7.	**-2.3**
4	Evaluate 6.3 ÷ (-0.9) + 2/7.	**-47/7**
5	Estimate to the nearest whole number, then find the exact value of -7.8 + 2/3 + 4.1.	**Estimate: -3. Exact value: -91/30.**
6	Evaluate (-1/4 - 0.5) × (-8).	**6**

PART 2 · APPLY IT

1. **3.7 points. An estimate of -3 + 4 × 2 - 1 = 4 points is close.** Compute -2.5 + 4(1 3/4) - 0.8 = -2.5 + 7 - 0.8 = 3.7.
2. **$12.80. An estimate of $19 - 3($2.50) + $1 = $12.50 is close.** The drinks cost $7.05. Compute $18.60 - $7.05 + $1.25 = $12.80.

CHALLENGE

No. The total is -4.50 + 3(2 1/4) - 1.20 = 1.05 points. Estimating -4.5 + 7 - 1 = 1.5 points supports 1.05, not 3.45.

Accept equivalent exact forms, such as -3 1/30 for practice problem 5. Accept other estimates that reasonably support the exact answers.