LESSON MAKER PRO

Scores and Shifts

Track changes and find the final value.

GRADE 7 · 7.NOS.A.1.d

7.NOS.A.1.d "Model and solve multistep contextual problems involving addition and subtraction of rational numbers, using efficient and flexible strategies."

NAME _____ DATE _____

TRACK EACH CHANGE

Start with the given value and write each change in order. Gains and rises add to the value, while losses and drops subtract from it. Group numbers when doing so makes the calculation easier.

WORKED EXAMPLE

Your game score starts at -8.6 points. You gain 2.7 points, then lose 1.9 points. What is your final score?

1. Write the changes: -8.6 + 2.7 - 1.9.
2. Combine the changes: 2.7 - 1.9 = 0.8.
3. Find the final score: -8.6 + 0.8 = -7.8.

Answer: -7.8 points

PRACTICE 6 problems

1 Your game score starts at -4.5 points. You gain 6.2 points, then lose 3.1 points. What is your final score?

ANSWER _____

2 The temperature is -3/4°C. It rises 1/2°C, then falls 1/4°C. What is the final temperature?

ANSWER _____

3 A game wallet has a balance of -$5.25. You spend $2.50, then add $10. What is the new balance?

ANSWER _____

4 An elevator starts on floor -2. It goes up 7 floors, down 4 floors, then up 3 floors. What floor is it on?

ANSWER _____

5 A diver is 5/4 m below the surface. The diver rises 1/2 m, then sinks 3/4 m. What is the diver's final position relative to the surface?

ANSWER _____

6 At sunrise, the temperature is 4.4°C. It falls 6.5°C, rises 3.3°C, then falls 2.2°C. What is the final temperature?

ANSWER _____

APPLY IT Show your work

1 Mina's game score is -3.5 points after a penalty. She gains 7.25 points, loses 2.75 points, then gains 1.5 points. Her friend's score is 4 points. How many points ahead of or behind her friend is Mina?

WORK SPACE

ANSWER _____

2 A school music club's digital account balance is -$12.40. A member adds $18.75, the club buys a sound effect for $4.60, and then the club receives a $3.25 refund. What is the final balance?

WORK SPACE

ANSWER _____

CHALLENGE One step up

A gaming wallet starts at -$6.50. You spend $3.75, receive $8.25, get a $2.50 refund for an earlier purchase, and pay a $1.25 fee. How much money must you add to bring the balance to $5.00? Show your calculation.

WORK SPACE AND ANSWER

ANSWER KEY

Scores and Shifts

GRADE 7 · 7.NOS.A.1.d

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	Your game score starts at -4.5 points. You gain 6.2 points, then lose 3.1 points. What is your final score?	**-1.4 points**
2	The temperature is -3/4°C. It rises 1/2°C, then falls 1/4°C. What is the final temperature?	**-1/2°C**
3	A game wallet has a balance of -$5.25. You spend $2.50, then add $10. What is the new balance?	**$2.25**
4	An elevator starts on floor -2. It goes up 7 floors, down 4 floors, then up 3 floors. What floor is it on?	**Floor 4**
5	A diver is 5/4 m below the surface. The diver rises 1/2 m, then sinks 3/4 m. What is the diver's final position relative to the surface?	**-3/2 m**
6	At sunrise, the temperature is 4.4°C. It falls 6.5°C, rises 3.3°C, then falls 2.2°C. What is the final temperature?	**-1°C**

PART 2 · APPLY IT

1. **Mina is 1.5 points behind.** Mina's final score is -3.5 + 7.25 - 2.75 + 1.5 = 2.5 points. That is 4 - 2.5 = 1.5 points below her friend's score.
2. **$5.00** Calculate -$12.40 + $18.75 - $4.60 + $3.25 = $5.00.

CHALLENGE

The balance is -$6.50 - $3.75 + $8.25 + $2.50 - $1.25 = -$0.75. You must add $5.75 to reach $5.00.

Accept equivalent fractions and mixed numbers. For the diver, accept 3/2 m below the surface as equivalent to -3/2 m relative to the surface.