

**Practice
4-3*****Adding Rational Numbers***

1. Find the sum of $\frac{12}{13} + \left(-\frac{1}{13}\right)$.
2. Find the value of the expression $(-8.6) + 7.2$.
3. Find the sum of $-7.5 + (-7.6)$.
4. Find the sum of $\frac{2}{3} + \left(-\frac{1}{3}\right)$.
5. In her garden Pam plants the tomato seed $2\frac{3}{4}$ in. below the ground. After one month the tomato plant has grown a total of $12\frac{1}{2}$ in. How many inches is the plant above the ground?
6. Greg is at his house. He gets in the car and drives north 9.6 miles and stops at the store. Then he turns around and drives south 8.4 miles to go to his friend's house. How far is the friend's house from Greg's house?

7. a) **Writing** Simplify the expression $\left(-\frac{8}{15}\right) + \left(\frac{1}{15}\right)$.

b) Show how to simplify in steps, using a property of operations for each step. Explain the property you use in each step.

8. a) **Reasoning** Simplify the expression $(-13.2) + 8.1$.

b) How are $(-13.2) + 8.1$ and $13.2 + (-8.1)$ related? Explain without computing.

c) Using a property of operations, what can you say about their sum?

9. a) **Error Analysis** Simplify the expression $-2.6 + (-5.4)$.

b) On the test, when Tom simplified the expression he got -2.8 . What mistake did Tom likely make when he simplified the expression?

- A. He found the absolute value of just the second number.
- B. He found the absolute value of just the first number.
- C. He found the absolute value of both numbers, but then used the wrong sign.
- D. He did not find the absolute value of either number.

10. a) **Mental Math** Simplify the expression $-5\frac{3}{4} + \left(\frac{-1}{4}\right)$.

b) Describe the steps you use to simplify this expression using mental math. Tell why this expression allows you to use mental math.

- 11. Stock Market** At the beginning of the day the stock market goes up $30\frac{1}{2}$ points and stays at this level for most of the day. At the end of the day the stock market goes down $120\frac{1}{4}$ points from the high at the beginning of the day. What is the total change in the stock market from the beginning of the day to the end of the day?

- 12.** Simplify the expression.

$$\left(-\frac{11}{21}\right) + \frac{9}{21}$$

- 13. Estimation** The seventh-grade class is going hiking in the mountains. At the beginning of the day the class hikes $500\frac{1}{4}$ yards up the mountain and stops for lunch. After lunch the class goes $175\frac{1}{2}$ yards down the mountain and stops for a break.
- a) Estimate the change in elevation from the beginning of the day to when the class stops for a break.
- A. 500 yards
- B. 325 yards
- C. -325 yards
- D. -175 yard
- b) Find the exact change in elevation.

14. Think About the Process

- a) Which absolute value expression would you use to find the absolute value of $3.1 + (-6.3)$?
- A. $|3.1| - |-6.3|$
- B. $|-6.3| - |3.1|$
- C. $|-6.3| + |3.1|$
- D. $|3.1| + |-6.3|$
- b) Find $3.1 + (-6.3)$.

- 15. Think About the Process** The science class wants to see how far a paper airplane will travel on a windy day. The teacher throws the paper airplane and it goes forward 8.5 feet. Then the paper airplane returns 6.1 feet before it hits the ground.
- a) What should be the first step in calculating the distance the paper airplane is from the teacher?
- A. Subtract the lesser absolute value from the greater absolute value.
 - B. Use the sign of the number with the greater absolute value as the sign of the sum.
 - C. Find the absolute values of the numbers.
 - D. Decide whether each number is positive or negative.
- b) What is the distance from the teacher to where the paper airplane hit the ground?