Lesson 1-5: Add and Subtract Rational Numbers

1. Sample answer: You use the same rules to add and subtract integers as you do to add and subtract other rational numbers.

2. No; Sample answer: If you take the absolute value of the difference, you will get the same positive distance.

3. Yes; Sample answer: To find the sum of rational numbers with different signs you find the difference of the absolute values and apply the sign of the number with the larger absolute value.

4. $\left| 8\frac{1}{2} - (-4\frac{1}{2}) \right| = 13$ ft

5. $-172.5 + 137.1 = -35.4$ meters; the shark is 35.4 meters below sea level.

6. a. - 8
   b. - 0.10

7. 5.7; 8.9

8. $\frac{12}{13}; \frac{1}{13}; \frac{11}{13}$

9. Sample answer: He subtracted instead of added the absolute values of the addends.

10. - 49.2 °F

11. a. 38.2
    b. - 62.8
    c. - 38.2

12. $-89\frac{3}{4}$

13. $|75.5 - (-18)| = 93.5$ feet

14. $617\frac{4}{5}$ feet

15. 32.58 feet below the surface, or -32.58 feet

16. $\frac{9}{10} + (-1\frac{3}{10})$

17. $8\frac{3}{4}$

18. a. - 5.1
    b. Sample answer: The numbers in the first expression are the additive inverses of the numbers in the second expression.
    c. Sample answer: The sum of additive inverses in 0.

19. a. 13.49 - (- 11.31)
    = 13.49 + 11.31 (additive inverse)
    = 24.80
    b. Day 2; Sample answer: The difference between the temperature at sunrise and the temperature at sunset is greater in Day 2 than it was in Day 1.

20. A and C