3.3 Subtracting Rational Numbers

* Solve problems that require subtracting rational numbers.

To subtract rational numbers in fraction form, recall how to subtract fractions and subtract integers.

1. Convert all mixed fractions to improper fractions.
2. Find a common denominator.
3. Keeping the denominator the same, subtract the numerators.
4. Convert your answers to mixed fractions if necessary and reduce your fraction.

**Subtracting Rational Numbers in Fraction and Mixed Number Form**

Example #1 Example #2

(find a common denominator) ) (remember what happens when you have 2 negatives)

Example #3 Example #4

**Solving Problems by Subtracting Rational Numbers**

A diver jumps off a cliff that is 14.7 m above sea level. After hitting the water, he plunges 3.8 m below the surface of the water before returning to the surface.

1. Use rational numbers to represent the difference in heights from the top of the cliff to the bottom of his dive. Sketch a number line and place the values on it.
2. The water is 5.6 m deep. What is the distance from the bottom of the ocean floor to the bottom of the dive?

You Try:

In Asia, the lowest point on land is the shore of the Dead Sea, which is 417.5 m below sea level. The highest point is the peak of Mount Everest, which is 8844.43 m above sea level.

1. Write each measurement above as a rational number.
2. Write a subtraction statement that represents the distance between the highest point and the lowest point. What is the distance?