**3.3 – Subtracting Rational Numbers**

Recall that when adding and subtracting fractions:

1. convert any mixed numbers to improper fractions
2. make the fractions compatible by creating \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. add the numerators and keep the same denominator
4. if the answer is an improper fraction, convert it into a mixed number

To subtract fractions, you can "add the opposite" just like we did for subtracting negative integers. You may find it helpful to visualize what is happening by using a number line.

Ex 1: Find the difference between each pair of fractions.

(a) $\frac{3}{4}$ $- \frac{1}{4}$ (b) $\frac{1}{4}$ $- \frac{3}{4}$



 (c) $\frac{4}{3}$ $- \frac{5}{6}$ (d) $\frac{1}{6}$ $- (-\frac{2}{3})$



(e) 4 $\frac{3}{8}-2\frac{1}{2}$ (f) $ $($-\frac{5}{4})$ $-$ ($-3\frac{1}{5})$

Use what you know about subtracting integers to subtract rational numbers in decimal form.

Ex. 2: 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.

Use a drawing and rational numbers to represent the difference in heights from the top of the cliff to the bottom of his dive.

Assignment: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_