Name: _____ **Teacher:** _____ **School:** _____

Grade 7, Lesson #6   Adding and subtracting with integers

Think about this situation. Draw and label a picture. Draw and label a number line. Use these to reason about the problem, write an expression to represent the problem, and use your expression to solve the problem.

When people travel down major highways, they can use mileposts to calculate distances. Mileposts mark the distance along a highway, starting at one end and going to the other end or to the point where the highway crosses a state border. Depending on which direction a driver travels, the numbers on the mileposts might increase or decrease. For example, if a driver has just passed milepost 137 and wants to eat at a restaurant at milepost 60, the driver knows that the distance to the restaurant, in miles, is equal to |60 - 137|, or 77 miles.

A. You are at milepost 345, and you notice the next milepost is 344, are the miles increasing or decreasing?

B. You are at milepost 345 and your next stop is at milepost 221. What is the distance you will travel to your next stop?

C. You are at milepost 4 and your next stop is at 56. What is the distance you will travel to your next stop?

Sourced from Curriculum Associates.

Name: _____ **Teacher:** _____ **School:** _____

Grade 7: Lesson 7   Subtracting Positive and Negative Fractions and Decimals

Solve the given problems. Make sure to include a number line in your solution path.

1.) An otter is swimming at 24.2 yd relative to the surface of the water. It dives 8.6 yd deeper. After the dive, what is the otter's elevation relative to the surface of the water? Show your work.

2.) In science class, Ron recorded $-\frac{3}{10}$ °C as the starting temperature of a saltwater solution. To complete his experiment, he needs the temperature of the solution to decrease by $\frac{4}{10}$ °C. What will Ron record as the ending temperature of the solution?

3.) During January, the average daily temperature in a town is -2.7°C. The average daily temperature in the same town is 3.2°C lower in February. What is the average daily temperature in January?

Sourced from Curriculum Associates

Name: _____ Teacher: _____ School: _____

Grade 7: Lesson 8   Adding and subtracting rational numbers using different strategies

Use the strategies we reviewed to solve the problems.

1. The temperature in a city in South Dakota was 25.5°F at 8:00 am. By 10:30 am, the temperature dropped 12.8 degrees and then by 2:00 pm, it dropped 15.3 degrees more. What was the temperature at 2:00 pm?

2. A helicopter is 19.25 meters above the top of a canyon wall. It goes down 27.60 meters, passing into the canyon. Then it goes up 5.25 meters. What is the new position of the helicopter relative to the top of the canyon wall?

3. Write a possible situation that could use the following expression and solve the problem.
    -432.5 – 78.6 + 301.2

Sourced from Curriculum Associates.

Name: _____ **Teacher:** _____ **School:** _____

Grade 7: Lesson 9 Use addition and subtraction of positive and negative fractions to solve real-world problems

Answer the following problems using strategies from the lesson. Show all work.

1.) An all-terrain vehicle (ATV) is at an elevation of -$8\frac{1}{4}$ ft. It goes down a canyon $6\frac{2}{3}$ ft to and then goes back up the other side of the canyon $16\frac{3}{4}$ ft. What is the final elevation of the ATV? Show your work.

2.) A water tank has a leak and loses $45\frac{2}{5}$ gallons of water on Monday. On Tuesday, it loses another $39\frac{2}{3}$ gallons of water. Finally, the water tank was repaired and gained $23\frac{1}{10}$ gallons on Wednesday. What is the total change in amount of water in the water tank? Show your work.

3.) Create a situation that uses the following expression and solve the problem. -$5\frac{1}{2}$ - $9\frac{1}{4}$ + $2\frac{3}{4}$

Sourced from Curriculum Associates

Name: _____ **Teacher:** _____ **School:** _____

Grade 7: Lesson 10   Adding and subtracting rational numbers using different strategies and checking for answer reasonableness

First, make a prediction. Is the answer is positive or negative? Then work the problem to get the answer.

1. 1.3 – (-2.5)

2. $-3\frac{1}{6} + 6\frac{2}{3}$

3. -4.2 – (-2.9) – 4.2 + 0.1

4. $3\frac{1}{5} - 2\frac{1}{2} + 2\frac{3}{5}$

5. 4.3 – (-2.7) – 3.1 + (- 3.9)

Sourced from Curriculum Associates