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

increase by $\frac{4}{10}°C$. What will Ron record as the ending temperature of the solution?

A birdbath is filled to the top. On Day 1, the volume of water in the bowl decreases

by $\frac{7}{8}$ cup. On Day 2, the volume of water in the bowl decreases by $\frac{3}{4}$ cup. What

number represents the total change in the volume of water in the bowl after two days?

8 $-2\frac{1}{2} - 2\frac{1}{2} = $ _____

9 Susan's cat loses $1\frac{1}{4}$ pounds. Then it loses another $\frac{1}{8}$ pound. What is the total change in

the cat's weight? _____

19 Solve.

$$-\frac{3}{4} - \frac{4}{3} = \square$$

Show your work.

1 On Monday, the value of a stock decreased by $\frac{1}{2}$ point. On Tuesday, the value increased by $\frac{3}{4}$ point. On Wednesday, the value decreased by $\frac{3}{8}$ point. What number represents the change in stock value after the three days?

- **A** $\frac{7}{8}$ point
- **B** $\frac{2}{8}$ point
- **C** $-\frac{1}{8}$ point
- **D** $-\frac{13}{8}$ points

2 Which expression represents a negative number?

- **A** $a + b$
- **B** $a - b$
- **C** a
- **D** $-b$

Is each expression equivalent to $\frac{5}{8} - \frac{3}{4}\left(8 - \frac{1}{3}\right) + 1$? Select Yes or No for each expression.

- **A** $-\frac{33}{8}$ ☐ Yes ☐ No
- **B** $-\frac{35}{8}$ ☐ Yes ☐ No
- **C** $-6\frac{7}{8}$ ☐ Yes ☐ No
- **D** $-4\frac{1}{8}$ ☐ Yes ☐ No

1 Use a common denominator to find $-1\frac{1}{4} + \left(-\frac{3}{8}\right)$.

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2 Use a common denominator to find $-\frac{2}{3} + \left(-\frac{4}{5}\right)$.

Show your work.

3 Serena is building a bookcase. She cuts two pieces of wood from one board. One piece is $1\frac{7}{8}$ feet long and another is $3\frac{1}{2}$ feet long. What is the total change in the length of the original board?

Show your work.

Solution: _____

4 In an experiment, the temperature of a solution is $-\frac{7}{8}$ °F. The temperature drops $1\frac{1}{2}$ °F. What is the temperature after the drop?

Show your work.

Solution: _____

5 The sum of two negative fractions with different denominators is $-\frac{7}{10}$. What are two possible fractions?

Show your work.

Solution: _____

6 Find the sum.

a. $-2\frac{1}{10} + \left(-4\frac{4}{5}\right)$ _____

b. $-3\frac{5}{6} + \left(-1\frac{7}{12}\right)$ _____

4 A gardener cuts a plant down by $1\frac{5}{8}$ inches. The plant then grows $9\frac{1}{4}$ more inches. What is the total change in the height of the plant? Explain.

Show your work.

2 Michelle poured $\frac{7}{8}$ cup of water from a pitcher into a glass. Then she poured another $\frac{2}{3}$ cup. What is the change in the amount of water in the pitcher? Explain.

_____

_____

5 Consider the following equation.

$-\frac{5}{6} + \square =$ a negative number

a. Write a fraction that makes this equation true.

_____

b. Show that your fraction makes the equation true.

_____

_____

Julia is playing a computer game. To enter a new quest she has to pay a "tax" of 2.5 points, but she expects to earn 7.5 points. For each quest, how many points can she gain overall?

18 At midnight, the temperature in Alto is −3.8°C. The wind chill makes the temperature feel 5.6°C colder than the actual temperature. What is the wind-chill temperature?

Show your work.

20 Which number makes the following statement TRUE?

$$-0.5 - \Box = \text{a positive number}$$

A 1.0

B 0.5

C −0.5

D −1.0

Martin chose **A** as the correct answer. How did he get that answer?

_____

_____

_____

_____

Identify the number or numbers that make each statement true. You may select one or both numbers for each statement.

A $-3.7 + \Box = \text{a positive number.}$ ☐ −4.9   ☐ 3.8

B $\Box - 1\frac{1}{3} = \text{a negative number.}$ ☐ $\frac{4}{3}$ ☐ −5

C $\Box + 8 = 0$ ☐ −8   ☐ 8

D $-4.52 + \Box = \text{a negative number.}$ ☐ −5.48   ☐ 3.86

Jamal stands on a dock 1.5 meters above the surface of the water. A trout swims 4.8 meters below Jamal. What is the position of the trout compared to the surface of the water?

Show your work.

Answer _____

6 Solve the problem.

Part A

Find a number that makes this statement true.

$-2.5 + \square$ = a positive number

Answer _____

Part B

Write an equation showing that your answer makes the statement true.

Answer _____

Part C

Draw a number line and use arrows to show your equation.

5 Solve each problem.

a. What is $-4.3 - (-6.8)$? _____

b. What is $1\frac{3}{5} + \left(-2\frac{7}{10}\right)$? _____

6 You are playing a game. You lose 4.8 points, lose another 7.6 points, and then win 2.5 points. What is the overall change in your score?

Show your work.

Solution: _____

1 What is $-8.3 - (-5.4)$?

A -13.7 **C** 2.9

B -2.9 **D** 13.7

Lon chose A as the correct answer. How did he get that answer?

_____

_____

3 Which expressions are equal to $0.50 - (-1.75)$? Select all that apply.

A $\frac{1}{50} - \left(-1\frac{3}{4}\right)$ **C** $0.50 + 1.75$

B $-0.50 - 1.75$ **D** $\frac{1}{2} + 1\frac{3}{4}$

4 Tell whether each statement is _True_ or _False_.

a. $0.45 - (-0.4) = 0.85$ ☐ True ☐ False

b. $-1\frac{5}{8} - \left(-5\frac{5}{8}\right) = -7\frac{1}{4}$ ☐ True ☐ False

c. $-7\frac{3}{7} + \frac{1}{7} = -7\frac{2}{7}$ ☐ True ☐ False

During a hot summer week, the water level in Wei's pool decreased by 1.9 centimeters. Wei added water to the pool, increasing the level by 3.5 centimeters. During the next week, the water level decreased by 2.4 centimeters. How does the new water level compare to the original water level?

Show your work.

Solution: _____

_____