Name:_____ Date: _____
Ms. Napolitano Adding Rational Numbers

Topic: Adding Rational Numbers

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?

Use the math you already know to solve the problem.

- Reread the problem. By how much will the temperature of the saltwater solution increase? _____°C
- Write an expression to show how to calculate the final temperature of the solution.

_____

- Explain how you would add $-3 + 4$.

_____

- Look at the number line below. If you start at -3 tenths of a unit left of zero and then move right 4 tenths of a unit, where do you end up?

_____

- What is $-\frac{3}{10} + \frac{4}{10}$? _____
- What is the ending temperature for the solution? _____°C
- Explain how adding $-\frac{3}{10} + \frac{4}{10}$ is like adding $-3 + 4$.

_____

Reflection:

How is adding positive and negative fractions similar to adding integers? How is it different?

Adding positive and negative fraction is ***similar*** to adding integers because _____
_____
_____
_____
_____
Adding positive and negative fraction is ***different*** to adding integers because _____
_____
_____
_____
_____

On Your Own

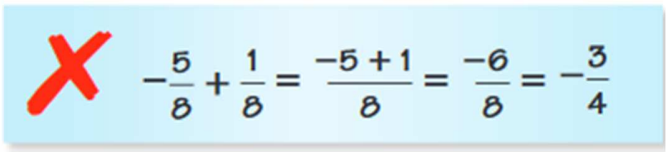
Add.

1. $-\frac{7}{8}+\frac{1}{4}$	**2.** $-6\frac{1}{3}+\frac{20}{3}$	**3.** $2+\left(-\frac{7}{2}\right)$

Directions: Add. Write each fraction in simplest form.

$\frac{11}{12}+\left(-\frac{7}{12}\right)$	$-1\frac{1}{5}+\left(-\frac{3}{5}\right)$	$-\frac{9}{14}+\frac{2}{7}$
$4+\left(-1\frac{2}{3}\right)$	$\frac{15}{4}+\left(-4\frac{1}{3}\right)$	$-4.2+3.3$

Describe and correct the error that was made.



Correct the error below:

Solution: _____

The error that occurred was _____
_____
_____

. **HOT DOGS** You eat $\frac{3}{10}$ of a pack of hot dogs. Your friend eats $\frac{1}{5}$ of the pack of hot dogs. What fraction of the pack of hot dogs do you and your friend eat?

The fraction of the pack of hots that I and my friend eat is _____.

Add. Write each fraction in simplest form.

. $6+\left(-4\frac{3}{4}\right)+\left(-2\frac{1}{8}\right)$	$-5\frac{2}{3}+3\frac{1}{4}+\left(-7\frac{1}{3}\right)$

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Challenge Questions:

Directions: Write the answers in your classwork section of your binder.

Add. Write fractions in simplest form.

1. $\frac{5}{16} + \left(-\frac{7}{16}\right)$
2. $\frac{3}{5} + \left(-\frac{4}{15}\right)$
3. $-\frac{7}{2} + 3\frac{2}{3}$
4. $5.6 + (-1.3)$
5. $-8.2 + 5.4$
6. $7.15 + (-12.76)$
7. Describe and correct the error in finding the sum.

$$\text{X} \quad \frac{3}{10} + \left(-\frac{1}{10}\right) = \frac{3+1}{10} = \frac{4}{10} = \frac{2}{5}$$

Evaluate the expression when $x = \frac{1}{2}$ and $y = -\frac{2}{5}$.

8. $-x + y$
9. $x + 2y$
10. $|x + y|$
11. The temperature is -12.6 degrees Celsius. The temperature goes up 7.9 degrees. What is the new temperature?
12. You finish $\frac{3}{8}$ of the project. Your friend finishes $\frac{1}{4}$ of the project. What fraction of the project is finished?

Add. Write fractions in simplest form.

13. $5 + \left(-2\frac{1}{3}\right) + \left(-3\frac{1}{6}\right)$
14. $-4\frac{1}{5} + 3\frac{2}{3} + \left(-1\frac{2}{5}\right)$
15. $-12.4 + 19.1 + (-4.3)$
16. Determine if the following statements are *always*, *sometimes*, or *never* true.
    a. When adding two negative rational numbers, the sum will be negative.
    b. When adding two rational numbers with different signs, the sum will be zero.
    c. When adding two positive rational numbers, the sum will be zero.
    d. When adding two rational numbers with different signs, the sum will be negative.

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Homework

Add. Write fractions in simplest form.

1. $\frac{5}{6} + \frac{8}{6}$

2. $\frac{7}{10} + \left(-\frac{3}{5}\right)$

3. $-\frac{9}{2} + \frac{5}{12}$

4. $5\frac{1}{3} + \left(-\frac{5}{9}\right)$

5. $\frac{3}{5} + \frac{8}{5}$

6. $-4 + \frac{3}{2}$
