Objective: Students will be able to add rational numbers

Do Now: Do you remember how to add the numbers below?

Add

1) \(-5 + -12 = \boxed{-17}\)  2) \(6 + (-8) = \boxed{-2}\)  3) \(-3 + 14 = \boxed{11}\)

4) \(3.5 + 2.5 = \boxed{6}\)  5) \(-3.5 + (-2.5) = \boxed{-6}\)

Rule for adding integers with the same sign:

1) \(4 + 2 = \boxed{6}\)  2) \(-3 + (-7) = \boxed{-10}\)  3) \(-9 + (-1) = \boxed{-10}\)

What do you think you will do on the following addition problems? Make a hypothesis.
Your Turn:

1) \(3.4 + 2.3 = \underline{5.7}\)

2) \(-3.4 + (-2.3) = \boxed{-5.7}\)

3) \(\frac{1}{3} + \frac{3}{4} = \boxed{1 \frac{1}{12}}\)

4) \(-\frac{1}{3} + \left(-\frac{3}{4}\right) = \boxed{-1 \frac{1}{12}}\)

5) \(7.8 + 23.92 = \underline{31.72}\)

6) \(-7.8 + (-23.92) = \underline{-31.72}\)

7) \(1\frac{1}{4} + 3\frac{1}{5} = \underline{4 \frac{7}{20}}\)

8) \(-1\frac{1}{4} + \left(-3\frac{1}{5}\right) = \underline{-4 \frac{9}{20}}\)

9) Michelle hikes for 2.5 miles and stops for lunch. Then she hikes for 1.5 more miles. How many miles did she hike altogether?

10) Kyle pours out \(\frac{1}{2}\) of a gallon of lemonade, then he pours out another \(\frac{3}{4}\) of a gallon of lemonade. What is the overall change in the amount of liquid in his pitcher?
Rule for adding integers with different signs:

1. Subtract
2. Use sign of “bigger” number

1) $-4 + 2 = -2$  
2) $3 + (-7) = -4$  
3) $9 + (-1) = 8$

What do you think you will do on the following addition problems? Make a hypothesis.

4) $-4.4 + 2.3 = -2.1$  
5) $3.8 + (-7.4) = -3.6$  
6) $9 \frac{1}{2} + \left(-\frac{1}{4}\right) = 8 \frac{1}{4}$

Your Turn:

1) $3 + (-12) = -9$  
2) $3.4 + (-12.3) = -8.9$  
3) $2 + (-1) = 1$  
4) $\frac{2}{3} + \left(-\frac{1}{3}\right) = \frac{1}{3}$

5) $-7 + 23 = 16$  
6) $-7.8 + 23.9 = 16.1$  
7) $-3 + 1 = -2$  
8) $\frac{3}{4} + \frac{1}{2} = \frac{1}{4}$
① \(-\frac{1}{2} + \left(-\frac{1}{3}\right)\)

② \(\frac{5}{6} + \left(-\frac{1}{6}\right)\)
7R: Homework

Add the following:

1) \(-2.4 + (-4.5) = \) _________  
2) \(-4.5 + 7.99 = \) _________

3) \(-2\frac{2}{3} + \left( -3\frac{1}{4} \right) = \) _________
4) \(-2\frac{2}{3} + \frac{1}{6} = \) _________

5) Jamie got paid at work today. She made $98.56. She had to buy a new muffler for her car, it cost $121.87. What was the total change to Jamie's bank account?

6) Guillermo built his house on bad soil. After only one year the house settled (moved down) \(\frac{3}{4}\) of an inch. After the next year it settled (moved down again) another \(\frac{1}{3}\) inches. What was the total change in Guillermo's house's elevation?