

Slide 1:

A student has completed their solution path for the rational numbers problem

$$\frac{7}{10} - \frac{1}{4}$$

In this tutorial, we'll compare how **you**... *think about* and *solve* this type of problem.

Slide 2:

Can you describe what the student is doing at this step of their solution?

How do **you** perform this step?

What previous math skills do **you** use as you perform this step?

Slide 4:

*Another student solved at this step by simply multiplying the two denominators in the problem...  $10 \times 4 = 40$*

What would happen if a student chose a common denominator, but not the lowest common denominator?

Slide 6:

Can you describe what the student is doing at this step of their solution?

How do **you** perform this step?

What previous math skills do **you** use as you perform this step?

Slide 8:

What do we mean when we say write equivalent fractions?

How do **you** define equivalent fractions?

Can you show how your fractions are equivalent?

Slide 10:

Can you explain why we need to write equivalent fractions, having common denominators, in order to subtract?

Slide 13:

Can you describe what the student is doing at this step of their solution?

How do **you** perform this step?

What previous math skills do **you** use as you perform this step?

Slide 15:

How would your solution path change if we made one of the fractions negative?

Would a negative *integer* change the way you determine your *LCD* or write your *equivalent fractions*?

How do **you**... subtract integers?

Slide 17:

What does it mean when we say... *to subtract two integers add the opposite?*

Can you write other examples to demonstrate *adding the opposite?*

Slide 19:

*To subtract two integers... add the opposite*

Once you've written your subtraction as an addition statement... how do **you** determine the sum of two integers?

How might visualizing a mental number line help you determine the sum?

Slide 21:

Now let's try that negative sign on the other fraction...

How will this change your solution path and answer?

Slide 23:

Now let's try having negative signs on both fractions...

How will subtracting a negative value from a negative value change your solution path and answer?

Slide 25:

Let's review the key steps of your solution path... *up to the subtraction or add the opposite step!*

Looking back at the four rational number problems... which step(s) were the same in each solution?

Which step(s) were different?

Can you explain what was different?

Slide 28:

Let's focus on the answer to each of the 4 problems

How do you determine if a fraction is written in its *simplest form*?

What previous math skills do you use when simplifying fractions?

Slide 31:

$$\left(-\frac{5}{6}\right) - \frac{2}{3}$$

Before actually solving the following problem, can you explain when/how you'll use each of the following within your solution path?

- *LCD*
- *Equivalent Fractions*
- *Add the Opposite*
- *Simplest Form*

Slide 33:

$$\left(-\frac{5}{6}\right) - \frac{2}{3}$$

Can you demonstrate when/how you'll use each of the following within your solution path?

- *LCD*
- *Equivalent Fractions*
- *Add the Opposite*
- *Simplest Form*

