

Warm-Up

CST/CAHSEE: _____

Review: Grade

Adding & Subtracting Fractions from an Equation Perspective (Clearing the Denominator)

A method for simplifying an addition or subtraction expression is to set it equal to a variable and turn it into an equation.

We try:

Lead students through the process with questioning.

$$\frac{11}{12} - \frac{1}{3} =$$

Example #2

$$\frac{11}{12} - \frac{1}{3}$$

Let $x = \frac{11}{12} - \frac{1}{3}$

$$12x = 12\left(\frac{11}{12}\right) - 12\left(\frac{1}{3}\right)$$
$$12x = \left(\frac{12}{1} \cdot \frac{11}{12}\right) - \left(\frac{12}{1} \cdot \frac{1}{3}\right)$$
$$12x = \frac{12 \cdot 11}{1 \cdot 12} - \frac{4 \cdot 3 \cdot 1}{1 \cdot 3}$$
$$12x = 7$$
$$\frac{12x}{12} = \frac{7}{12}$$
$$x = \frac{7}{12}$$

Once I set $\frac{11}{12} - \frac{1}{3}$ equal to x , how do we clear the denominators?

[multiply each term by the LCM]

What is the LCM of 12 and 3? [12]

Now that we've multiplied each term, what do we do now? [factor each term]

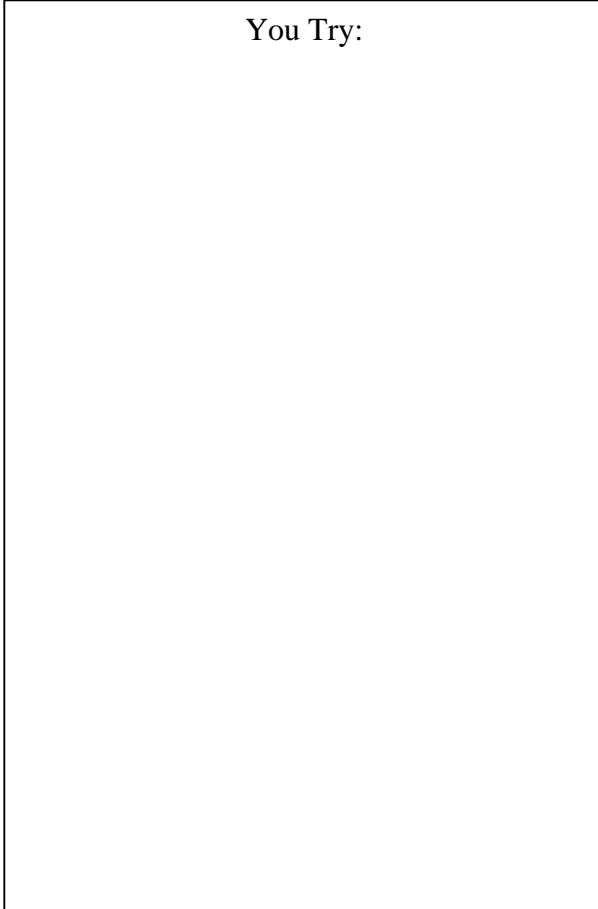
Are there any equivalent forms of one?

[—, —, —]

You Try:

Have students work through the next problem independently or in pairs.

You Try:



You Try:

You Try #2:

$$4\frac{1}{4} - 2\frac{1}{2} =$$

$$\text{Let } x = 4\frac{1}{4} - 2\frac{1}{2}$$

$$x = \frac{17}{4} - \frac{5}{2}$$

$$4(x) = 4 \frac{17}{4} - 4 \frac{5}{2}$$

$$4x = \frac{4}{1} \cdot \frac{17}{4} - \frac{4}{1} \cdot \frac{5}{2}$$

$$4x = \frac{\cancel{4} 17}{1 \cancel{4}} - \frac{\cancel{4} 2 \cdot 5}{\cancel{2} 1}$$

$$4x = 17 - 10$$

$$4x = 7$$

$$\frac{4x}{\cancel{4}} = \frac{7}{4}$$

$$x = \frac{7}{4}$$

$$x = \frac{\cancel{4}}{\cancel{4}} + \frac{3}{4}$$

$$x = 1\frac{3}{4}$$

Additional You Tries:

Have students work through 2 problems using the Think-Pair-Share strategy. Student A will dictate how to solve as Student B works as the scribe. Student B doesn't talk....only writes. They switch roles for the second you try. Both students must have all work written in their notebooks. Pick students to debrief problems for the class.

You Try #3:

$$- - =$$

Let $x = - -$

$$x = - -$$

$$(x) = () - (-)$$

$$x = - (\text{diagram})$$

$$x = -$$

$$x =$$

$$\frac{1}{4}x = -$$

$$x = \frac{+}{-}$$

$$x = - + -$$

$$x = + -$$

$$x = -$$

You Try #4:

$$1\frac{1}{-} 1-$$

$$1\frac{1}{-} 1-$$

$$\frac{10}{-} \frac{11}{-}$$

$$1 () 1 \frac{10}{-} 1 \frac{11}{-}$$

$$1 \frac{1}{1} \frac{10}{-} \frac{1}{1} \frac{11}{-}$$

$$1 \frac{2}{-} \frac{10}{-} + \left(\frac{\cdot}{-} \cdot \frac{11}{-} \right)$$

$$1 = 20 +$$

$$1 =$$

$$\frac{1}{1} = \frac{-}{1}$$

$$= \frac{-}{1}$$

$$= \frac{1}{1} + \frac{1}{1} + \frac{1}{1}$$

$$= 1 + 1 + \frac{1}{1}$$

$$= 2\frac{1}{1}$$