Unit 6 Lesson 18: Subtraction in Equivalent Expressions

1 Number Talk: Additive Inverses (Warm up)

Student Task Statement

Find each sum or difference mentally.

$-30 + -10$

$-10 + -30$

$-30 - 10$

$10 - -30$

2 A Helpful Observation

Student Task Statement

Lin and Kiran are trying to calculate $7\frac{3}{4} + 3\frac{5}{6} - 1\frac{3}{4}$. Here is their conversation:

Lin: "I plan to first add $7\frac{3}{4}$ and $3\frac{5}{6}$, so I will have to start by finding equivalent fractions with a common denominator."

Kiran: "It would be a lot easier if we could start by working with the $1\frac{3}{4}$ and $7\frac{3}{4}$. Can we rewrite it like $7\frac{3}{4} + 1\frac{3}{4} - 3\frac{5}{6}$?"

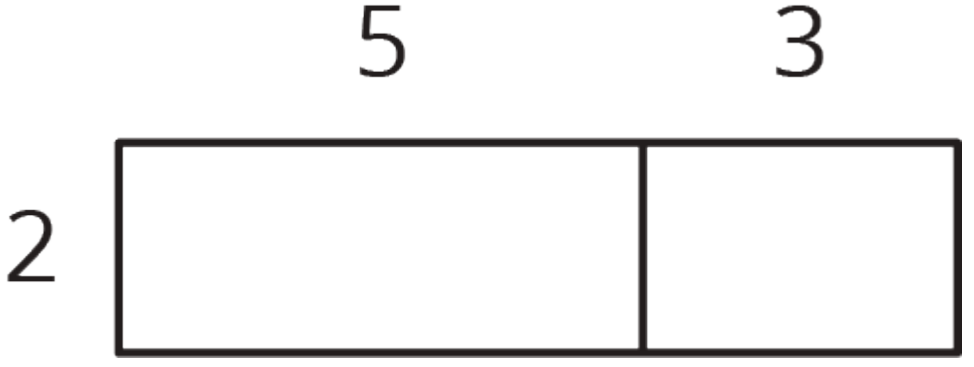
Lin: "You can't switch the order of numbers in a subtraction problem like you can with addition; $2 - 3$ is not equal to $3 - 2$."

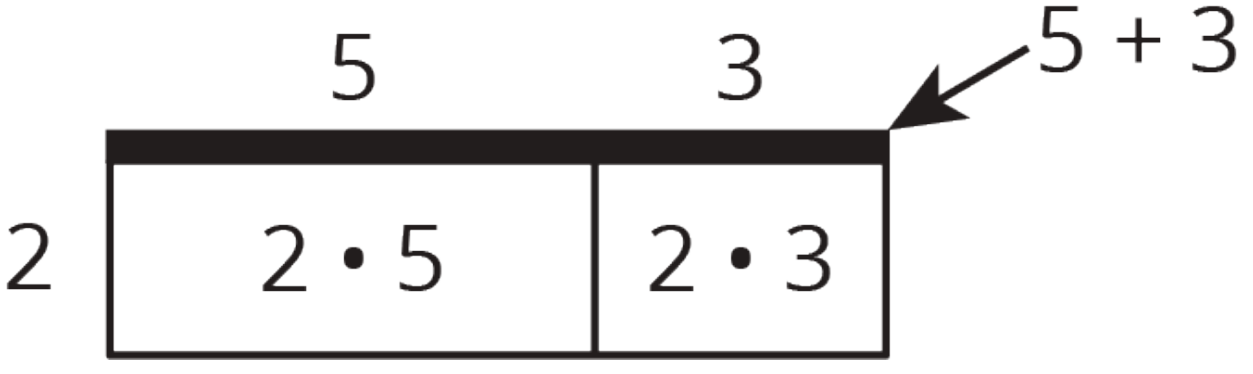
Kiran: "That's true, but do you remember what we learned about rewriting subtraction expressions using addition? $2 - 3$ is equal to $2 + (-3)$."

1. Write an expression that is equivalent to $7\frac{3}{4} + 3\frac{5}{6} - 1\frac{3}{4}$ that uses addition instead of subtraction.
2. If you wrote the **terms** of your new expression in a different order, would it still be equivalent? Explain your reasoning.

3 Organizing Work

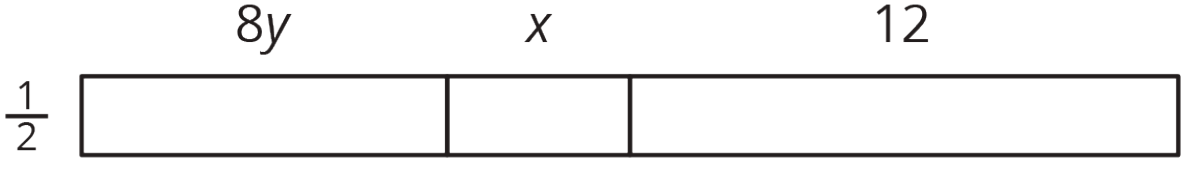
Images for Launch



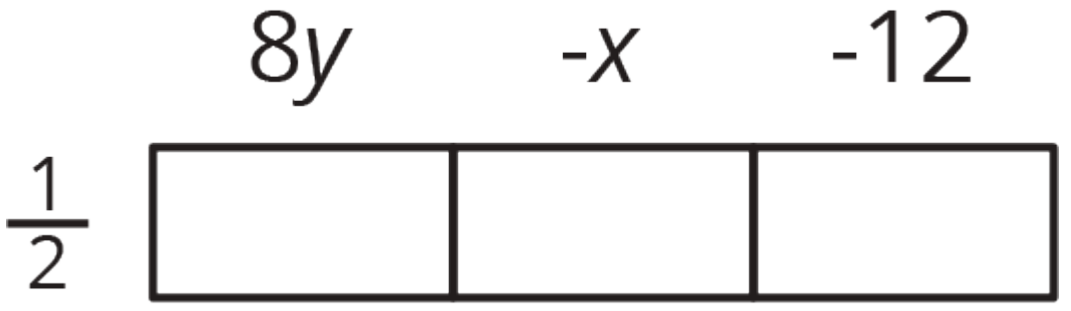


Student Task Statement

1. Write two expressions for the area of the big rectangle.



2. Use the distributive property to write an expression that is equivalent to $\frac{1}{2}(8y + -x + -12)$. The boxes can help you organize your work.



3. Use the distributive property to write an expression that is equivalent to $\frac{1}{2}(8y - x - 12)$.

Activity Synthesis