

Activity 7 Assessment

Solving More Complex Linear Equations

Content: Solving Multi-Step Equations with Rational Numbers

Solves one-step equations with integer constants and coefficients

"I can solve $3x = 9$ by dividing both sides by 3."

Solves two-step and multi-step equations with integer constants and coefficients with at most two terms on each side

"I can solve $3x + 2 = 11$ by first subtracting 2 from both sides, then dividing both sides by 3."

Solves multi-step equations with rational number constants and coefficients with at most two terms on each side

"I use the same steps and operations (subtraction, division) as I would if the numbers were integers. I can solve $3.5x + 2.9 = 11.7$ by first subtracting 2.9 from both sides, then dividing both sides by 3.5."

Solves multi-step equations with rational number constants and coefficients with like terms on one or both sides of the equation

"There are two x terms on the left side. I can combine them to simplify the equation. Once there is at most one x term and one constant term on each side, I'll begin to solve for x ."

Observations/Documentation

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Competency: Connecting

Connects a one-step equation to a missing value problem (e.g., a missing addend or subtrahend problem)

"I can think of $x + 5 = 8$ as what number plus 5 is the same as 8."

Connects similar types of models, such as a pan balance and algebra tiles

"When I take away 5 unit tiles from both sides, it's like when I remove 5 blocks from both pans of the pan balance."

Connects models to the algebraic method of solving

"When I take away 5 unit tiles from both sides, it is the same as subtracting 5 from both sides of the equation."

Connects algebraic solution methods for equations involving lesser whole numbers to solution paths for equations involving greater numbers or other numbers that cannot be easily modelled

"Just like I can subtract 5 from both sides to isolate the variable term, I can subtract 5.7 or $\frac{5}{7}$, or 57 from both sides."

Observations/Documentation