

Learning Targets

Expressions, Equations, and Inequalities

Lesson 1: Relationships between Quantities

- I can think of ways to solve some more complicated word problems.

Lesson 2: Reasoning about Contexts with Tape Diagrams

- I can explain how a tape diagram represents parts of a situation and relationships between them.
- I can use a tape diagram to find an unknown amount in a situation.

Lesson 3: Reasoning about Equations with Tape Diagrams

- I can match equations and tape diagrams that represent the same situation.
- If I have an equation, I can draw a tape diagram that shows the same relationship.

Lesson 4: Reasoning about Equations and Tape Diagrams (Part 1)

- I can draw a tape diagram to represent a situation where there is a known amount and several copies of an unknown amount and explain what the parts of the diagram represent.
- I can find a solution to an equation by reasoning about a tape diagram or about what value would make the equation true.

Lesson 5: Reasoning about Equations and Tape Diagrams (Part 2)

- I can draw a tape diagram to represent a situation where there is more than one copy of the same sum and explain what the parts of the diagram represent.
- I can find a solution to an equation by reasoning about a tape diagram or about what value would make the equation true.

Lesson 6: Distinguishing between Two Types of Situations

- I understand the similarities and differences between the two main types of equations we are studying in this unit.
- When I have a situation or a tape diagram, I can represent it with an equation.

Lesson 7: Reasoning about Solving Equations (Part 1)

- I can explain how a balanced hanger and an equation represent the same situation.
- I can find an unknown weight on a hanger diagram and solve an equation that represents the diagram.
- I can write an equation that describes the weights on a balanced hanger.

Lesson 8: Reasoning about Solving Equations (Part 2)

- I can explain how a balanced hanger and an equation represent the same situation.
- I can explain why some balanced hangers can be described by two different equations, one with parentheses and one without.
- I can find an unknown weight on a hanger diagram and solve an equation that represents the diagram.
- I can write an equation that describes the weights on a balanced hanger.

Lesson 9: Dealing with Negative Numbers

- I can use the idea of doing the same to each side to solve equations that have negative numbers or solutions.

Lesson 10: Different Options for Solving One Equation

- For an equation like $3(x + 2) = 15$, I can solve it in two different ways: by first dividing each side by 3, or by first rewriting $3(x + 2)$ using the distributive property.
- For equations with more than one way to solve, I can choose the easier way depending on the numbers in the equation.

Lesson 11: Using Equations to Solve Problems

- I can solve story problems by drawing and reasoning about a tape diagram or by writing and solving an equation.

Lesson 12: Solving Problems about Percent Increase or Decrease

- I can solve story problems about percent increase or decrease by drawing and reasoning about a tape diagram or by writing and solving an equation.

Lesson 13: Reintroducing Inequalities

- I can explain what the symbols \leq and \geq mean.
- I can represent an inequality on a number line.
- I understand what it means for a number to make an inequality true.

Lesson 14: Finding Solutions to Inequalities in Context

- I can describe the solutions to an inequality by solving a related equation and then reasoning about values that make the inequality true.
- I can write an inequality to represent a situation.

Lesson 15: Efficiently Solving Inequalities

- I can graph the solutions to an inequality on a number line.
- I can solve inequalities by solving a related equation and then checking which values are solutions to the original inequality.

Lesson 16: Interpreting Inequalities

- I can match an inequality to a situation it represents, solve it, and then explain what the solution means in the situation.
- If I have a situation and an inequality that represents it, I can explain what the parts of the inequality mean in the situation.

Lesson 17: Modeling with Inequalities

- I can use what I know about inequalities to solve real-world problems.

Lesson 18: Subtraction in Equivalent Expressions

- I can organize my work when I use the distributive property.
- I can re-write subtraction as adding the opposite and then rearrange terms in an expression.

Lesson 19: Expanding and Factoring

- I can organize my work when I use the distributive property.
- I can use the distributive property to rewrite expressions with positive and negative numbers.
- I understand that factoring and expanding are words used to describe using the distributive property to write equivalent expressions.

Lesson 20: Combining Like Terms (Part 1)

- I can figure out whether two expressions are equivalent to each other.
- When possible, I can write an equivalent expression that has fewer terms.

Lesson 21: Combining Like Terms (Part 2)

- I am aware of some common pitfalls when writing equivalent expressions, and I can avoid them.
- When possible, I can write an equivalent expression that has fewer terms.

Lesson 22: Combining Like Terms (Part 3)

- Given an expression, I can use various strategies to write an equivalent expression.
- When I look at an expression, I can notice if some parts have common factors and make the expression shorter by combining those parts.

Lesson 23: Applications of Expressions

- I can write algebraic expressions to understand and justify a choice between two options.