

2.1 notes.notebook

A1 notes 2.1

Solving one-step equations

Equivalent Equations: Equations that have the _____ solutions.

Addition Property of Equality: Adding the same to each side of an equation produces an equivalent equation.

Algebra: For any real numbers a , b , and c , if $a=b$, then $a + c = b + c$.

Example: $x - 7 = 11$

Subtraction Property of Equality: Subtracting the same to each side of an equation produces an equivalent equation.

Algebra: For any real numbers a , b , and c , if $a=b$, then $a - c = b - c$.

Example: $x + 7 = 11$

A1 notes 2.1

Examples:

1) $x + 11 = 8$

2) $-5 = x + 8$

3) $x - 7 = 8$

4) $-10 = x - 5$

A1 notes 2.1

Multiplication Property of Equality: Multiplying each side of an equation by the same nonzero number produces an equivalent equation.

Algebra: For any real numbers a , b , and c , if $a = b$ then $a \cdot c = b \cdot c$

Example: $\frac{x}{3} = 2$

Division Property of Equality: Dividing each side of an equation by the same nonzero number produces an equivalent equation.

Algebra: For any real numbers a , b , and c , if $a=b$, then $\frac{a}{c} = \frac{b}{c}$

Example: $5x = 20$

A1 notes 2.1

Examples:

5) $3x = 12$

6) $27 = -9x$

7) $\frac{x}{7} = 3$

8) $-8 = \frac{x}{4}$

2.1 notes.notebook

A1 notes 2.1

Inverse Operations: Inverse operations “undo” operations. We “undo” operations in the reverse order of operations.

Inverse of Addition: _____

Inverse of Subtraction: _____

Inverse of Multiplication: _____

Inverse of Division: _____

Applications

9) A train is 100 miles away from the station. It is approaching the station at 40 miles per hour. How long will it take for the train to arrive at the station?

10) Netflix offers streaming video for \$8/month. Jake's grandma gives him \$50 for his birthday. How many months can Jake afford Netflix if he only uses his birthday money from his grandma?