

2-2 Solving 2-Step Equations Notes

A. When solving any simplified equation algebraically, you must use inverse (opposite) operations that “undo” the math.

In the table below, write each operations inverse symbol.

+	-	×	÷

B. It is VERY IMPORTANT to do this in the correct order, reversing order of operations when possible.

Simplifying Expressions (Order of Operations)

Grouping Symbols →	Exponents →	Multiplication/Division →	Addition/Subtraction →
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Solving Equations (REVERSING Order of Operations)

Complete the table.

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*Whatever you do to one side of an equation, you must do to the other side.

C. Examples

$$\begin{aligned}
 1. \quad 6d - 5 = 31 & \quad 6d - 5 + 5 = 31 + 5 & \quad \text{Add 5 to each side. (Add. Prop. of Equal.)} \\
 & \quad 6d = 36 & \quad \text{Simplify.} \\
 & \quad \frac{6d}{6} = \frac{36}{6} & \quad \text{Divide both sides by 6. (Div. Prop. of Equal.)} \\
 & \quad d = 6 & \quad \text{Simplify.}
 \end{aligned}$$

$$\begin{aligned}
 2. \quad \frac{p - 7}{-2} = 5 & \quad -2 \cdot \frac{p - 7}{-2} = 5 \cdot -2 & \quad \text{Multiply both sides by } -2. \text{ (Mult. Prop. of Equal.)} \\
 & \quad p - 7 = -10 & \quad \text{Simplify.} \\
 & \quad p - 7 + 7 = -10 + 7 & \quad \text{Add 7 to both sides. (Add. Prop. of Equal.)} \\
 & \quad p = -3 & \quad \text{Simplify.}
 \end{aligned}$$

D. Besides retracing your steps, how could you check your answer? Use this method to check one of the example problems above.

E. Practice

Solve each equation. Check your answer.

1. $4f - 8 = 20$

2. $25 - 6b = 55$

3. $-z + 7 = -8$

4. $\frac{w}{-9} + 7 = 10$

5. $25 = 8 + \frac{n}{2}$

6. $\frac{y-8}{3} = -7$