Journal Prompt

Find the Error

Describe and Correct the error in solving the equation.

$$7 + x = -21$$
$$\underline{+7 \qquad\quad +7}$$
$$x = -14$$

Answer:

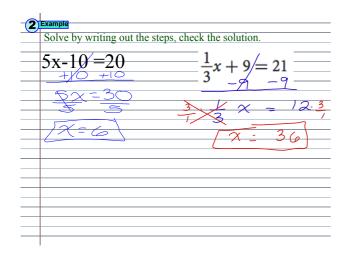**Unit 1:**
A.CED.1   Solve Two-Step Equations

Objective   **I will be able to use properties of equality to solve two step equation problems.**

Properties of Equality
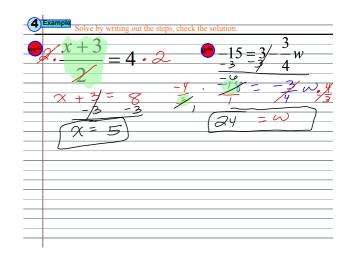
Words	Numbers	Algebra
Addition Property of Equality You can add the same number to both sides of an equation, and the statement will still be true.	$3 = 3$ $3 + 2 = 3 + 2$ $5 = 5$	$a = b$ $a + c = b + c$
Subtraction Property of Equality You can subtract the same number from both sides of an equation, and the statement will still be true.	$7 = 7$ $7 - 5 = 7 - 5$ $2 = 2$	$a = b$ $a - c = b - c$
Multiplication Property of Equality You can multiply both sides of an equation by the same number, and the statement will still be true.	$3 = 3$ $3 \cdot 4 = 3 \cdot 4$ $12 = 12$	$a = b$ $a \cdot c = b \cdot c$
Division Property of Equality You can divide both sides of an equation by the same nonzero number, and the statement will still be true.	$15 = 15$ $\frac{15}{3} = \frac{15}{3}$ $5 = 5$	$a = b$ $\frac{a}{c} = \frac{b}{c},$ where $c \neq 0$

Reciprocal

number related to another in such a way that when multiplied together their product is 1.

EX

the reciprocal of 2/3 is 3/2 $\frac{3}{1} \rightarrow \frac{1}{3}$

the multiplicative inverse
of 7 is 1/7

Solving two-step equations

Step 1   Get all variable terms on one side and all numbers on the other side by using the addition property of equality.
or $(-)$ Prop.

Step 2   Get the variable alone by using the multiplication property of equality.
or $(\div)$ Prop.

CHECK   Check the solution by substituting it into the original equation.

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① **Example**

Solve by writing out the steps, check the solution.

$$\frac{3}{2} \cdot \frac{2}{3}x = 12 \cdot \frac{3}{2}$$
$$\boxed{x = 18}$$

$$\frac{4x}{4} = \frac{20}{4}$$
$$x = 5$$

② Example

Solve by writing out the steps, check the solution.

$$5x - 10 = 20$$
$$+10 \quad +10$$
$$\frac{5x}{5} = \frac{30}{5}$$
$$\boxed{x = 6}$$

$$\frac{1}{3}x + 9 = 21$$
$$-9 \quad -9$$
$$\frac{3}{1} \cdot \frac{1}{3}x = 12 \cdot \frac{3}{1}$$
$$\boxed{x = 36}$$

④ Example

Solve by writing out the steps, check the solution.

$$2 \cdot \frac{x + 3}{2} = 4 \cdot 2$$
$$x + 3 = 8$$
$$-3 \quad -3$$
$$\boxed{x = 5}$$

$$-15 = 3 - \frac{3}{4}w$$
$$-3 \quad -3$$
$$-18 = -\frac{3}{4}w$$
$$-\frac{4}{3} \cdot -18 = -\frac{3}{4}w \cdot -\frac{4}{3}$$
$$\boxed{24 = w}$$

Attachments

Unit 1- A.CDE.1 Solving Two-Step Equations .docx