

WARM UP

Evaluate:

$$1) 45 + x \quad x = 87$$

$$2) 13x \quad x = 15$$

$$3) 2.4 + x \quad x = 3.91$$

$$4) 21 - x \quad x = 7.32$$

MATH COURSE I

Equations and
their Solutions

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VOCABULARY

Equation: a mathematical statement that show two expressions are equal

Solution: the value or values that make an equation true

Inverse operations: operations that undo each other ex. Addition/subtraction, multiplication/division

linear equation: an equation whose solution forms a straight line on a coordinate grid

Adding Equations Steps

Step 1: Isolate the **variable** (put it by itself).

Step 2: Use **inverse operations** to undo the equation.

Step 3: Solve the equation.

$$\text{Example: } x + 87 = 152$$

$$\begin{array}{r} -87 \qquad \qquad -87 \\ x + 87 = 152 \\ \hline x = 65 \end{array}$$

$$x = 65$$

Determining Solutions of Equations

Adding Equations

Example: $a + 23 = 82$

$$\begin{array}{r} -23 \\ -23 \end{array}$$

$$a = 59$$

Another Example

Example: $15 + x = 57$

$$\begin{array}{r} -15 \\ 15 + x = 57 \\ \hline \end{array}$$

$$x = 42$$

Practice

Practice

Subtraction Equations

Steps are the same! (What were they?)

$$\text{Example: } y - 23 = 39$$

$$+23 \quad +23$$

$$y = 62$$

Another Example

Example: $78 = v - 15$

$$+15 \quad + 15$$

$$93 = v$$

Practice

Practice