

Algebra 2

1-4 Solving Equations

Name _____

Date _____ A#9

Goals: 1. To solve equations 2. To solve problems by writing equations.



Warm Up: Solve each equation and check your solution.

a. $3x + 4 = -14$

Check

b. $\frac{2}{3}v - 11 = 27$

Check

Vocabulary and Key Concepts

Summary

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Properties of Equality

Let a , b , and c represent real numbers.

Property

$a = a$

Property

If $a = b$, then $b = a$.

Property

If $a = b$ and $b = c$, then $a = c$.

Property

If $a = b$, then b may be substituted for a in any expression to obtain an equivalent expression.

Property

If $a = b$, then $a + c = b + c$.

Property

If $a = b$, then $a - c = b - c$.

Property

If $a = b$, then $ac = bc$.

Property

If $a = b$ and $c \neq 0$, then $\frac{a}{c} = \frac{b}{c}$.

Example 1: Solve the equation two different ways. Then check the solution.

$2(y - 3) + 6 = 70$

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Example 2: Two brothers are saving money to buy tickets to a concert. Their combined savings is \$55. One brother has \$15 more than the other. How much has each saved?

Practice 1: What three consecutive numbers have a sum of 126?

Equations with No Solutions and Identities

Example 3: $6(x+1) = 2(5+3x)$

Example 4: $3(y+3) + 5y = 4(2y+1) + 5$

Example 5: Solve for b

$$A = \frac{1}{2}bh$$

Practice 2: Solve for y .

$$\frac{4}{9}(y+3) = g$$

Practice 3: Solve for w .

$$A = lw + wh + lh$$