Algebra I

8-1

Equations in Two Variables

Solve - Get the variable on a side by itself

What does it mean to solve: We need to find pairs of numbers that make the equation true.

$x + y = 4$

{(1,3) (0,4) (2,2) (6,-2) . . . (5,-1) (-1,5)}

How many solutions does $x + y = 4$ have? infinite solutions (adjective)

infinity → ∞ (noun)

State whether each ordered pair is a solution of the given equation.

1) $5x + 2y = 23$ (3, 4) Yes (7, -6) Yes

$5(3) + 2(4) = 23$

$15 + 8 = 23$

$23 = 23$

$5(7) + 2(-6) = 23$

$35 - 12 = 23$

$23 = 23$

Solve each equation if x and y are whole numbers. Limiting domain and range. Whole number {0, 1, 2, ...}

13) $2x + y = 6$

$2(\ ) + (\ ) = 6$

0 6

{(0,6) (1,4) (2,2) (3,0) (4,-2)} ← Not whole

25) $xy + 7 = 23$

$xy + 7 - 7 = 23 - 7$

$xy = 16$

{(1,16), (4,4), (16,1) (2,8), (8,2)}

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2-36 even