Algebra 1 10/25

Warm Up IXL Algebra 1 A.7

1-5 Equations

I can solve equations with one and two variables

Open Sentence

mathematical statement that contains algebraic expressions and symbols (No equal sign)

Equation

a mathmatical statement that contains an equal sign

Solving an equation

finding a value for a variable that makes the equation true

Solution

the value of the variable that makes the equation true

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Set

a collection of objects or numbers, often listed inside braces { }

Element

each object in a set

$\in$ or $\notin$

element of or not an element of

Replacement Set

a set of numbers from which replacement values for the variables may be chosen

Solution Set

set of elements from the replacement set that makes an equation/open sentence true

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Ex. 1 Find the solution set for each equation if the replacement set is {0, 1, 2, 3}

A. $8m - 7 = 17$

$8 \cdot 0 - 7 \stackrel{?}{=} 17$

$-7 \neq 17$

$8 \cdot 1 - 7 \stackrel{?}{=} 17$

$8 - 7 \stackrel{?}{=} 17$

$1 \neq 17$

$8 \cdot 2 - 7 \stackrel{?}{=} 17$

$16 - 7 \stackrel{?}{=} 17$

$9 \neq 17$

$8 \cdot 3 - 7 \stackrel{?}{=} 17$

$24 - 7 \stackrel{?}{=} 17$

$17 = 17$

{3}

B. $28 = 4(1 + 3d)$

{2}

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Ex. 2 Solve $6 + \left(5^2 - 5\right) \div 2 = p$

$6 + (25 - 5) \div 2 = p$

$6 + 20 \div 2 = p$

$6 + 10 = p$

$16 = p$

$p = 16$

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Ex. 3 Solve each equation

A. $7-\left(4^2-10\right)+n=10$

$7-(16-10)+n=10$

$7-6+n=10$

$1+n=10$

$-1 \quad -1$

$n=9$

B. $n(3+2)+6=5n+(10-3)$

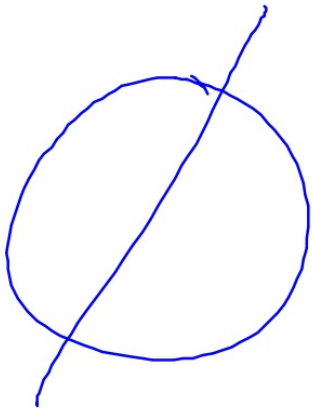
$n\cdot 5+6=5n+7$

$5n+6=5n+7$

$-5n \quad -5n$

$6 \neq 7$

No Solution



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Identity

an equation that is true for every value of the the variable

$x = x$ $\quad$ $5 = 5$ $\quad$ ∞ infinite solutions

$2 = 3$ $\quad$ $7 = 6$ $\quad$ $\varnothing$ No solutions

Ex. 4 Solve $(2 \cdot 5 - 8)(3h + 6) = [(2h + h) + 6]2$

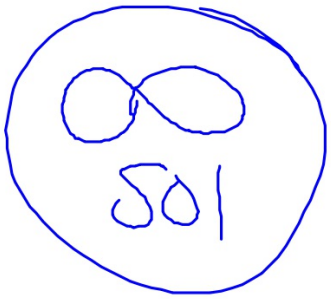
$(10 - 8)(3h + 6) = [3h + 6]2$

$2(3h + 6) = [3h + 6]2$

$6h + 12 = 6h + 12$

$-6h \quad -6h$

$12 = 12$



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Ex 5 Amy drives an average of 65 mile per hour. Write and solve an equation to find the time it will take her to drive 36 miles.

$$\frac{65 \text{ miles}}{1 \text{ hr}} \qquad 36 \text{ mile}$$

$$\frac{36 \text{ mile}}{65 \text{ mile/hr}} \approx 0.6 \text{ hrs}$$

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Hmwk IXL Algebra 1 **I.2**