DIGITS 2-4
One, None, Infinite Solutions

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Goal: I will be able to **solve equations with one, none, and many solutions.**

Tool Bag (Formulas, equations, Vocabulary, etc)	Here's How…Notes & Examples
Example	$3x+4 = 2(x+3)$ $3x+4 = 2x+2(3)$ $3x-2x+4-4 = 2x-2x+6-4$ $x = 2$
Check	$3(2)+4 = 2(2+3)$ $6+4 = 2(5)$ $10 = 10$ ✓

Example	$2x+6 = 2(x+3)$ $2x+6 = 2x+2(3)$ $2x-2x+6-6 = 2x-2x+6-6$ $0 = 0$
$x=0$	$2(0)+6 = 2(0+3)$ $0+6 = 2(3)$ $6 = 6$ ✓
$x=6$	$2(6)+6 = 2(6+3)$ $12+6 = 2(9)$ $18 = 18$ ✓
$x=-4$	$2(-4)+6 = 2(-4+3)$ $-8+6 = 2(-1)$ $-2 = -2$ ✓

x can be ANY number!

Example	$3x+4 = 3(x-2)$ $3x+4 = 3x-3(2)$ $3x-3x+4-4 = 3x-3x-6-4$ $0 = -10$ WHAT ?!?! This makes NO sense! There is NO solution (answer).

	There are 3 possible solutions for equations
One Solution	You get x equals a number example $x=2$
Infinite Solutions	You get a "TRUE" statement, and x can be ANY number. example $0=0$ $6=6$ $x=x$
No Solution	You get a "FALSE" statement, so there is no answer for x example $0=-10$