

# DIGITS 2-3

Goal: I will be able to <u>solve equations using the distributive property</u>	
Tool Bag Formulas, equations, Vocabulary, etc.	Here's How... Notes & Examples
Are these the same?	
a) $3(2+5) = 3(2) + 3(5)$ $3(7) = 6 + 15$ $21 = 21$ yes	
b) $4(6-2) = 4(6) - 4(2)$ $4(4) = 24 - 8$ $16 = 16$ yes	
c) $-6(4+3) = -6(4) + (-6)(3)$ $(-6)7 = -24 + (-18)$ $-42 = -42$	

Distributive Property	$a(b+c) = a \cdot b + a \cdot c$ $a(b-c) = a \cdot b - a \cdot c$
Create Your Own	 $(\text{smiley})(\triangle + \square) = \text{smiley}\triangle + \text{smiley}\square$ $(\text{smiley})(\bigcirc - \square) = \text{smiley}\bigcirc - \text{smiley}\square$

Example	$3(x+2) = 21$ $3 \cdot x + 3(2) = 21$ $3x + 6 = 21$ $3x + 6 - 6 = 21 - 6$ $3x = 15$ $\frac{3x}{3} = \frac{15}{3}$ $x = 5$
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	$a) -3(x+4) = -15$ $-3 \cdot x + (-3)4 = -15$ $-3x + (-12) = -15$ $-3x + (-12) - (-12) = -15 - (-12)$ $-3x = -3$ $x = 1$ $b) 4(\frac{2}{3}x - \frac{1}{2}) = \frac{3}{4} - 3$ $4(\frac{2}{3}x) - 4(\frac{1}{2}) = \frac{3}{4} - 3$ $\frac{8}{3}x - 2 = \frac{3}{4} - 3$ $\frac{8}{3}x - 2 + 2 = \frac{3}{4} - 3 + 2$ $\frac{8}{3}x = \frac{3}{4} - 3 + 2$ $\frac{8}{3}x = \frac{3}{4} - 1$ $\frac{8}{3}x = \frac{3}{4} - \frac{4}{4} = -\frac{1}{4}$ $x = \frac{-\frac{1}{4} \cdot \frac{3}{8}}{1} = -\frac{3}{32}$
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Example	<p>Three machines make iPhones. Machine B makes <math>2\frac{1}{2}</math> times more than Machine A. Machine C makes 8 iPhones per day. Together they make 50 iPhones per day. How many iPhones does machine A make?</p> <p>iPhones  <math>A + B + C = 50</math>     <math>B = 2\frac{1}{2}A</math>     <math>C = 8</math>  <math>A = ?</math>  <math>A + 2\frac{1}{2}A + 8 = 50</math>     <math>\rightarrow \frac{7}{2}A = 42</math>  <math>3\frac{1}{2}A + 8 = 50</math>     <math>\left(\frac{2}{7}\right) \frac{7}{2}A = 42 \left(\frac{2}{7}\right)</math>  <math>\frac{7}{2}A + 8 - 8 = 50 - 8</math>     <math>A = 12</math></p>
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