

# DIGITS 2-3 DISTRIBUTIVE PROPERTY

10/28/2019

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Goal: I will be able to **solve equations using the distributive property**

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)  $6(2-5) = 6(2) - 6(5)$   
 $6(-3) = 12 - 30$   
 $-18 = -18$  yes

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Distributive Property

$$a(b+c) = a \cdot b + a \cdot c$$


$$a(b-c) = a \cdot b - a \cdot c$$

Create Your Own

$\text{☺}(\triangle + \square) = \text{☺}\triangle + \text{☺}\square$

$\text{☹}(\text{Ⓢ} - \text{Ⓢ}) = \text{☹}\text{Ⓢ} - \text{☹}\text{Ⓢ}$

3

 TRY

Ewe

$$3(x-2) = 21$$

$$3x - 3(2) = 21$$

$$3x - 6 + 6 = 21 + 6$$

$$3x = 27$$

$$\frac{3x}{3} = \frac{27}{3}$$

$$x = 9$$

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Example

$$\frac{3}{8}(x - \frac{1}{2}) = \frac{2}{3}$$

Distribute

$$\frac{3}{8}x - \frac{3}{8}(\frac{1}{2}) = \frac{2}{3}$$

Multiply

$$\frac{3}{8}x - \frac{3}{16} = \frac{2}{3}$$

Add  $\frac{3}{16}$

$$\frac{3}{8}x - \frac{3}{16} + \frac{3}{16} = \frac{2}{3} + \frac{3}{16}$$

Common Denominator

$$\frac{3}{8}x = \frac{2}{3}(\frac{16}{16}) + \frac{3}{16}(\frac{3}{3})$$

Simplify

$$\frac{3}{8}x = \frac{32}{48} + \frac{9}{48}$$

Add

$$\frac{3}{8}x = \frac{41}{48}$$

Mult by rec p.

$$\frac{3}{8}x \cdot \frac{8}{3} = \frac{41}{48} \cdot \frac{8}{3}$$

$$x = \frac{41 \cdot 8}{72 \cdot 3} = \frac{41 \cdot 2}{9 \cdot 3} = \frac{82}{27}$$

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Example

Three machines make iPhones  
 Machine B makes  $2\frac{1}{2}$  times Machine A  
 Machine C makes 8 phones Together they make 50 phones a day How many phones does Machine A make?

$$A + B + C = 50 \quad B = 2\frac{1}{2}A \quad C = 8$$

$$A + 2\frac{1}{2}A + 8 = 50$$

$$3\frac{1}{2}A + 8 - 8 = 50 - 8$$

$$3\frac{1}{2}A = 42$$

$$\left(\frac{2}{7}\right) \frac{7}{2}A = 42 \left(\frac{2}{7}\right)$$

$$A = 12 \text{ phones}$$