

# SOLVING EQUATIONS GRAPHIC ORGANIZER

## SOLVING EQUATIONS

DO I HAVE TO DISTRIBUTE?  
 $2+5(x+3)-3(x-4)=x+2(2x+4)$

DO I HAVE TO CLEAN UP?  
 $2+5x+15-3x+12 = x+4x+8$

DO I HAVE VARIABLES ON BOTH SIDES?  
 $2x+29 = 5x+8$

IS THE VARIABLE ISOLATED?  
 $29=3x+8$

IS THE VARIABLE MULTIPLIED?  
 $21 = 3x$

### PRACTICE EQUATIONS

$2x-3(x+10)+4=-1+2(x+7)$	$x-6(x-5)+2x+9(x-20)$	$1+5(7-3x) = 12x+5x$	$x+2(2x+3)+1 = \frac{1}{2}(16x+28)$
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## SOLVING EQUATIONS

DO I HAVE TO DISTRIBUTE?  
 $2+5(x+3)-3(x-4)=x+2(2x+4)$

MULTIPLY the number outside by each term inside!

COMBINE LIKE TERMS (x with x, constants with constants)

DO I HAVE TO CLEAN UP?  
 $2+5x+15-3x+12 = x+4x+8$

PICK ON THE LITTLE GUY!  
 (subtract 2x from both)

DO I HAVE VARIABLES ON BOTH SIDES?  
 $2x+29 = 5x+8$

ADD OR SUBTRACT (for any constants from the variable side)

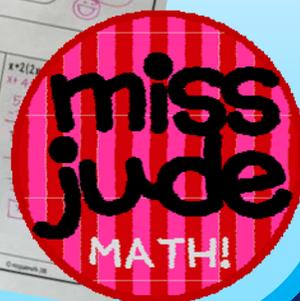
IS THE VARIABLE ISOLATED?  
 $29=3x+8$

DIVIDE OR MULTIPLY LAST to eliminate the coefficient

$x=7$

### PRACTICE EQUATIONS

$2x+7$	$x-6(x-5)+2x+9(x-20)$	$1+5(7-3x) = 12x+5x$	$x+2(2x+3)+1 = \frac{1}{2}(16x+28)$
$2x+11$	$-5x+30+6x-80$	$1+35+15x-15x+5x$	$5x+11$
$+80$	$+80$	$15x+20=17x$	$5x$
$+20$	$+20$	$-10x$	$5x$
$110 = 11x$		$3x = 2x$	
$11 = x$		$1x = x$	
$10 = x$			



# SOLVING EQUATIONS

**DO I HAVE TO DISTRIBUTE?**

$$2+5(x+3)-3(x-4)=x+2(2x+4)$$

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$$2+5x+15-3x+12 = x+4x+8$$

**DO I HAVE VARIABLES ON BOTH SIDES?**

$$2x+29 = 5x+8$$

**IS THE VARIABLE ISOLATED?**

$$29=3x+8$$

**IS THE VARIABLE MULTIPLIED?**

$$21 = 3x$$

## PRACTICE EQUATIONS

$$2x-3(x+10)+1=-1+2(x+7)$$

$$x-6(x-5)=2x+4(x-20)$$

$$1+5(7+3x) = 12x+5x$$

$$x+2(2x+3)-1 = \frac{1}{2}(4x+28)$$

# SOLVING EQUATIONS

DO I HAVE TO DISTRIBUTE?

$$2+5(x+3)-3(x-4)=x+2(2x+4)$$

MULTIPLY the number outside by each term inside!

COMBINE LIKE TERMS  
(x with x, constants with constants)

DO I HAVE TO CLEAN UP?

$$2+5x+15-3x+12 = x+4x+8$$

DO I HAVE VARIABLES ON BOTH SIDES?

$$2x+29 = 5x+8$$

PICK ON THE LITTLE GUY!  
(subtract 2x from both sides)

ADD OR SUBTRACT (1st) any constants from the variable side!

IS THE VARIABLE ISOLATED?

$$29=3x+8$$

IS THE VARIABLE MULTIPLIED?

$$21 = 3x$$

DIVIDE OR MULTIPLY LAST to eliminate the coefficient

$$x=7$$

## PRACTICE EQUATIONS

$$2x-3(x+10)+1=-1+2(x+7)$$

$$2x-3x-30+1=-1+2x+14$$

$$\begin{array}{r} -x-29 = 2x+13 \\ +x \qquad \quad +x \end{array}$$

$$\begin{array}{r} -29 = 3x+13 \\ -13 \quad -13 \end{array}$$

$$\begin{array}{r} -42 = 3x \\ \frac{-42}{3} = \frac{3x}{3} \end{array}$$

$$\boxed{-14 = x}$$

$$x-6(x-5)=2x+4(x-20)$$

$$x-6x+30=2x+4x-80$$

$$\begin{array}{r} -5x+30 = 6x-80 \\ +5x \quad +5x \end{array}$$

$$\begin{array}{r} 30 = 11x-80 \\ +80 \quad +80 \end{array}$$

$$\begin{array}{r} 110 = 11x \\ \frac{110}{11} = \frac{11x}{11} \end{array}$$

$$\boxed{10 = x}$$

$$1+5(7+3x) = 12x+5x$$

$$1+35+15x = 12x+5x$$

$$\begin{array}{r} 15x+36 = 17x \\ -15x \quad -15x \end{array}$$

$$\begin{array}{r} 36 = 2x \\ \frac{36}{2} = \frac{2x}{2} \end{array}$$

$$\boxed{18 = x}$$

$$x+2(2x+3)-1 = \frac{1}{2}(4x+28)$$

$$x+4x+6-1 = 2x+14$$

$$\begin{array}{r} 5x+5 = 2x+14 \\ -2x \quad -2x \end{array}$$

$$\begin{array}{r} 3x+5 = 14 \\ -5 \quad -5 \end{array}$$

$$\begin{array}{r} 3x = 9 \\ \frac{3x}{3} = \frac{9}{3} \end{array}$$

$$\boxed{x=3}$$



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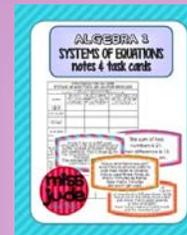
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