Name: _____ Date: _____ Hour: _____

Sequencing: Solving Systems of Equations by Elimination (Multiplication)

Put in order the given steps used to solve the system.

$$\mathbf{2x + y = 5} \qquad \mathbf{3x - 3y = 3}$$

Show	**Step**
$2x + y = 5$ $3x - 3y = 3$	Line up the x and y terms
$3(2x + y = 5)$ $3x - 3y = 3$	Multiply $2x + y = 5$ by 3
$6x + 3y = 15$ $3x - 3y = 3$ + _____ $9x + 0y = 18$	Add the two equations together
$\frac{9}{9}x = \frac{18}{9}$ $x = 2$	Divide by 9
$2(2) + y = 5$ $4 + y = 5$ $y = 5 - 4$ $y = 1$	Plug in 2 for x and solve for y
$2x + y = 5$ $2(2) + (1) = 5$ $4 + 1 = 5$ $5 = 5$ $3x - 3y = 3$ $3(2) - 3(1) = 3$ $6 - 3 = 3$ $3 = 3$ $(2,1)$	Check your answer

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Show	**Step**
$2x + y = 5$ $3x - 3y = 3$	
$3(2x + y = 5)$ $3x - 3y = 3$	
$6x + 3y = 15$ $3x - 3y = 3$ + _____ $9x + 0y = 18$	
$\frac{9}{9}x = \frac{18}{9}$ $x = 2$	
$2(2) + y = 5$ $4 + y = 5$ $y = 5 - 4$ $y = 1$	
$2x + y = 5$ $2(2) + (1) = 5$ $4 + 1 = 5$ $5 = 5$ $3x - 3y = 3$ $3(2) - 3(1) = 3$ $6 - 3 = 3$ $3 = 3$ $(2,1)$	

Multiply $2x + y = 5$ by 3	Divide by 9
Check your answer	Line up the x and y terms
Add the two equations together	Plug in 2 for x and solve for y

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Sequencing: Solving Systems of Equations by Elimination (Multiplication)

Put in order the given steps used to solve the system.

$$\mathbf{2x + 3y = -3} \qquad \mathbf{5x + 10y = 10}$$

Show	**Step**
$2x + 3y = -3$ $5x + 10y = 10$	Line up the x and y terms
$-5(2x + 3y = -3)$ $2(5x + 10y = 10)$	Multiply $2x + 3y = -3$ by -5 and $5x + 10y = 10$ by 2
$-10x - 15y = 15$ $10x + 20y = 20$ + _____ $0x + 5y = 35$	Add the two equations together
$\frac{5}{5}y = \frac{35}{5}$ $y = 7$	Divide by 5
$2x + 3y = -3$ $2x + 3(7) = -3$ $2x + 21 = -3$ $2x = -24$ $x = -12$	Plug in 7 for y and solve for x
$2x + 3y = -3$ $2(-12) + 3(7) = -3$ $-24 + 21 = -3$ $-3 = -3$ | $5x + 10y = 10$ $5(-12) + 10(7) = 10$ $-60 + 70 = 10$ $10 = 10$ $(-12,7)$	Check your answer

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Sequencing: Solving Systems of Equations by Elimination (Multiplication)

Put in order the given steps used to solve the system.

$$\mathbf{2x + 3y = -3} \qquad \mathbf{5x + 10y = 10}$$

Show	**Step**
	Line up the x and y terms
	Multiply $2x + 3y = -3$ by -5 and $5x + 10y = 10$ by 2
	Add the two equations together
	Divide by 5
	Plug in 7 for y and solve for x
	Check your answer

$\frac{5}{5}y = \frac{35}{5}$ $y = 7$	$2x + 3y = -3$ $2x + 3(7) = -3$ $2x + 21 = -3$ $2x = -24$ $x = -12$
$2x + 3y = -3$ $5x + 10y = 10$	$2x + 3y = -3$ | $5x + 10y = 10$ $2(-12) + 3(7) = -3$ | $5(-12) + 10(7) = 10$ $-24 + 21 = -3$ | $-60 + 70 = 10$ $-3 = -3$ | $10 = 10$ $(-12,7)$
$-10x - 15y = 15$ $10x + 20y = 20$ $+$ _____ $0x + 5y = 35$	$-5(2x + 3y = -3)$ $2(5x + 10y = 10)$

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Sequencing: Solving Systems of Equations by Elimination (Multiplication)

Put in order the given steps used to solve the system.

$$\mathbf{4x + 3y = -1} \qquad \mathbf{6x + 4y = 1}$$

Show	**Step**
$4x + 3y = -1$ $6x + 4y = 1$	Line up the x and y terms
$4(4x + 3y = -1)$ $-3(6x + 4y = 1)$	Multiply $4x + 3y = -1$ by 4 and $6x + 4y = 1$ by -3
$16x + 12y = -4$ $-18x - 12y = -3$ + _____ $-2x + 0y = -7$	Add the two equations together
$\frac{-2}{-2}x = \frac{-7}{-2}$ $x = \frac{7}{2}$	Divide by -2
$6\left(\frac{7}{2}\right) + 4y = 1$ $\frac{42}{2} + 4y = 1$ $21 + 4y = 1$ $4y = -20$ $y = -5$	Plug in $\frac{7}{2}$ for x and solve for y
$4\left(\frac{7}{2}\right) + 3(-5) = -1$ $\quad$ $6\left(\frac{7}{2}\right) + 4(-5) = 1$ $\frac{28}{2} - 15 = -1$ $\quad$ $\frac{42}{2} - 20 = -1$ $14 - 15 = -1$ $\quad$ $21 - 20 = 1$ $-1 = -1$ $\quad$ $1 = 1$ $\left(\frac{7}{2}, -5\right)$	Check your answer

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Sequencing: Solving Systems of Equations by Elimination (Multiplication)

Put in order the given steps used to solve the system.

$4x + 3y = -1$ $6x + 4y = 1$

Show	**Step**

$16x + 12y = -4$ $-18x - 12y = -3$ + _____ $-2x + 0y = -7$	Divide by -2
Add the two equations together	$6\left(\frac{7}{2}\right) + 4y = 1$ $\frac{42}{2} + 4y = 1$ $21 + 4y = 1$ $4y = -20$ $y = -5$
Plug in $\frac{7}{2}$ for x and solve for y	$4x + 3y = -1$ $6x + 4y = 1$
$4(4x + 3y = -1)$ $-3(6x + 4y = 1)$	Check your answer
Line up the x and y terms	$4\left(\frac{7}{2}\right) + 3(-5) = -1$ $\quad$ $6\left(\frac{7}{2}\right) + 4(-5) = 1$ $\frac{28}{2} - 15 = -1$ $\quad$ $\frac{42}{2} - 20 = -1$ $14 - 15 = -1$ $\quad$ $21 - 20 = 1$ $-1 = -1$ $\quad$ $1 = 1$ $\left(\frac{7}{2}, -5\right)$
$\frac{-2}{-2}x = \frac{-7}{-2}$ $x = \frac{7}{2}$	Multiply $4x + 3y = -1$ by 4 and $6x + 4y = 1$ by -3