# **Objective** The student will be able to: solve literal equations (formulas) for a specified variable.

### SOL: A.4a

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1) Solve 2x - 4y = 7 for x To get x by itself, what is the first step? 1. Add 2x2. Subtract 2x  $\checkmark$ 3. Add 4y 4. Subtract 4y **Answer Now** 

Use a DO-UNDO chart to help determine the steps

1) Solve 2x - 4y = 7 for x

Ask yourself,

- What is the first thing we are doing to x?
- What is the second Conthing the undo column by writing the opposite operations in opposite order.

$$\begin{array}{c|c} DO & UNDO \\ \hline 2 & +4y \\ -4y & \div 2 \end{array}$$

Follow the steps in the 'undo' column to isolate the variable.

#### 

1) Solve 
$$2x - 4y = 7$$
 for x  
+  $4y + 4y$   
1. Draw "the river"  
2. Add 4y to both  
sides  
3. Simplify  
4. Divide both sides  
by 2  
$$x = \frac{7 + 4y}{2}$$

5. Does it simplify?

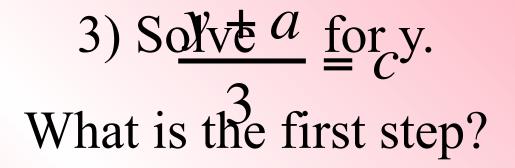
This fraction cannot be simplified because both terms in the numerator are not divisible by 2.

2) Solve 2x - 4y = 7 for y To get y by itself, what is the first step? 1. Add 2x $\checkmark$ 2. Subtract 2x 3. Add 4y 4. Subtract 4y Answer Now

2) Solve 
$$2x - 4y = 7$$
 for y  
 $\begin{array}{c} -2x \\ -2x \\ +2x \\$ 

5. Does it simplify? Nope!

by -4



- ✓1. Multiply by 3
  - 2. Divide by 3
  - 3. Add a
  - 4. Subtract a



## 3) Solve for y:

- 1. Draw "the river"
- Clear the fraction– multiply bothsides by 3
- 3. Simplify
- 4. Subtract a from both sides
- 5. Simplify

+a+a÷3  $c \gamma 3$  $3\gamma$ = 3ca -a **-**a v **=** 3c - a

· 3

- a

## 4) Solve for y: 4x - 2y = 12

1. -4x + 122. 4x - 123. -2x + 64. 2x - 6

Answer Now
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# 4) Solve for y: $4x - 2y \neq 12^{+4x}$

-4x

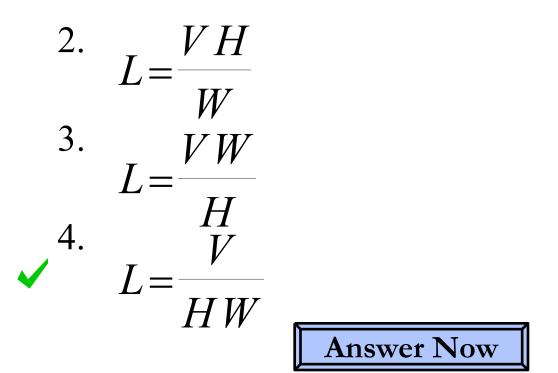
- 1. Draw "the river"
- 2. Subtract 4x from both sides
- 3. Simplify
- 4. Divide both sidesby -2
- 5. Does it simplify?

Yes!

or

- $2y = 12^{-4x} |_{\div -2}^{-4x}$ -4x -4x-2y = 12 - 4x-2 -2 -2
  - y = -6 + 2xy = 2x 6

5) The formula for the volume of a rectangular prism is V = LWH. Which equation solves the formula for L?
1. L = V - WH



## 6) The formula for the volume of a pyramid is $V = \frac{1}{3}bh$ . Which equation solves the 1. $h = 3Vb^3$ formula for h?

