Intro to Solving Equations with Brackets

In this tutorial, we'll explore the solution paths for equations containing brackets or parenthesis.

$$a(x+b)=c$$

Here's our first example… $2(3x+9)=42$

How do the brackets or parenthesis influence your understanding of the math that is occurring in this equation? How would you read this equation?

$$2(3x+9)=42$$

Think back to some of the strategies you first used when learning how to multiply. How might you use those strategies to rewrite the equation and show the math in a different way?

$$2\times(3x+9)=42$$

If you think of the equation $2(3x+9)=42$ as $(3x+9)+(3x+9)=42$, how would you describe and demonstrate the next step in your solution path?

Do you recall using BEDMAS to simplify or evaluate?
How would you explain why it is not possible to use BEDMAS to remove the brackets in this equation?

$$2(3x+9)=42$$

Your teacher has explained that because you cannot add the terms inside the brackets you'll need to *distribute multiplication over the addition.*

How would you explain the phrase *distribute multiplication over the addition?*

$$2(3x + 9) = 42$$

Based on the previous slides, how would you explain using the distributive property to simplify an equation?

We've used the distributive property to simplify the equation. How would you describe and read the equation after removing the brackets?

$$2(3x + 9) = 42$$
$$6x + 18 = 42$$

How would you explain and demonstrate the steps required to solve the remaining equation?

$$2(3x + 9) = 42$$
$$6x + 18 = 42$$

Your teacher instructs you to verify that your solution is correct using substitution. How would you explain and demonstrate using substitution to verify your solution?

$$2(3x + 9) = 42$$
$$x = 4$$

Let's use a new problem to review what we know about solving an equation containing brackets.

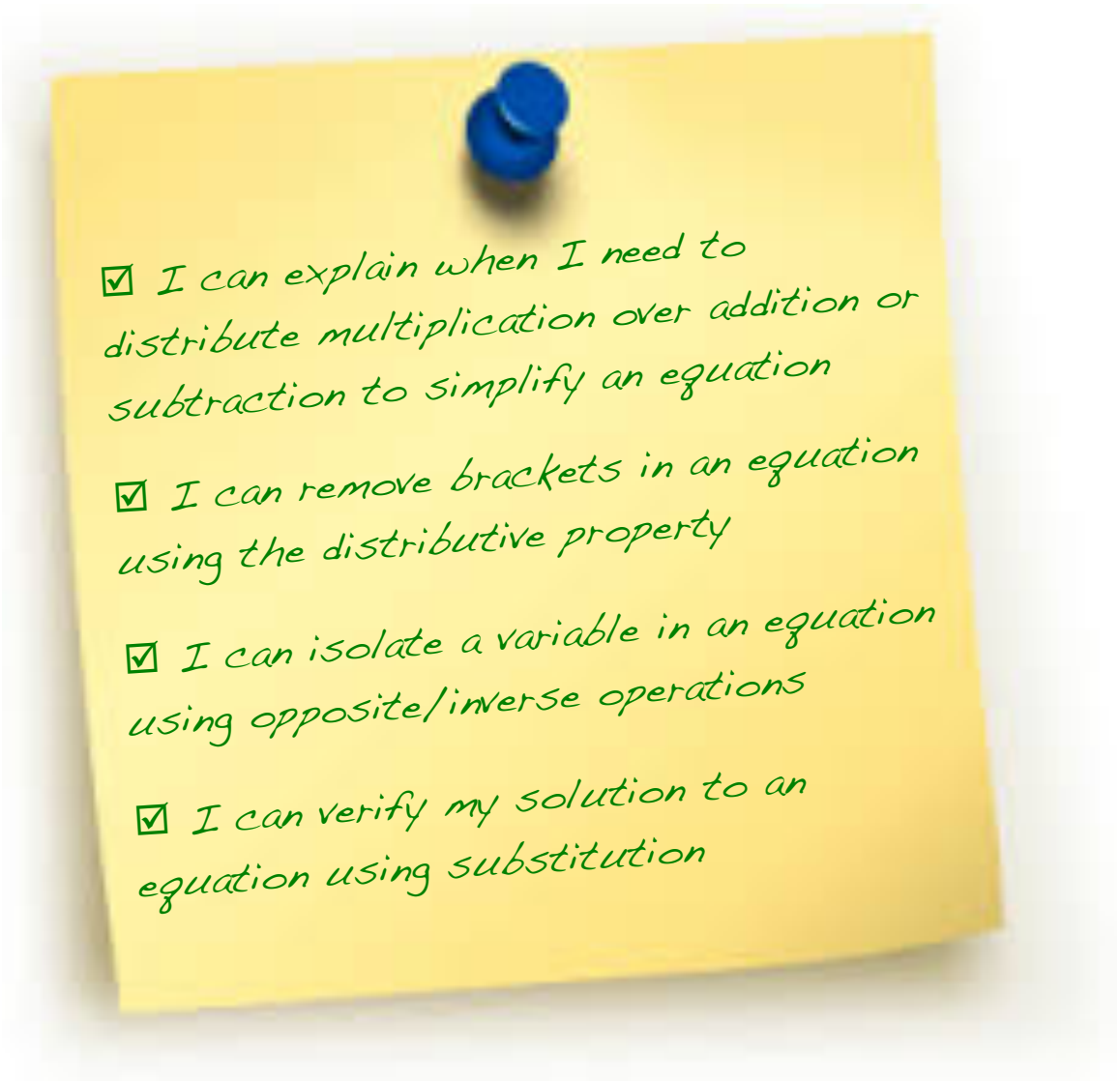
$$4(n - 7) = 36$$

How would you determine that part of your solution to this equation involves distributing multiplication over subtraction?

What would you include in a checklist summarizing all of your steps for solving this equation?

Using your checklist, teach someone how to solve this equation. Practice explaining and demonstrating all of your solution steps.

Intro to Solving Equations with Brackets – Skills Checklist



- ☑ I can explain when I need to distribute multiplication over addition or subtraction to simplify an equation
- ☑ I can remove brackets in an equation using the distributive property
- ☑ I can isolate a variable in an equation using opposite/inverse operations
- ☑ I can verify my solution to an equation using substitution

Intro to Solving Equations with Brackets - Worksheet