Day 1 Intro to sec 4.4 on Distributing
1. Present 1 problem for them to try to solve on overhead (1 minute – ok if can’t do)
   \[2(y - 3) + 5y = 22\]
2. Use worked example that looks like one in intervention packet
3. “There is more than one way to solve this problem. We’ll go through one way to solve it together. The first thing I could do is to use the distributive property. I would take 2 times \(y\) and get 2\(y\), minus, 2 times 3, and get 6, so I’d have 2\(y\)-6. I’m going to label my step “distribute.” What is the next thing I could do? … continue
4. At the end, I can check my solution in the original equation to make sure I got the right answer.
5. “Remember, when deciding what steps to make, it is very important to keep the two sides of the equation equal. So this side (gesture underneath) must stay equal to this side (gesture underneath).
6. “Here is a sheet with the labels for the 4 basic steps that we use when solving equations. You can use this when you study worked examples and label steps in your homework tonight.”
7. “Tomorrow, you are going to study how kids at another school solved some equations and be asked to think about their solutions. You’ll do this with a partner. Here is your partner (put on overhead). When you come tomorrow, sit next to your partner.
8. “For homework, do this worksheet. The problems are from section 4.4. Make sure you check your answers in the back of the book after you finish them.”

Day 3: Intro to Lesson 4.5 – Variables on Both Sides
a. Present challenge problem from homework on overhead: \[15t = 5(2t - 7)\]
b. Go through worked example on overhead as a class, including labels for steps (as with lesson 4.4)
c. “There is more than one way to solve any equation. When figuring out how to solve a problem, think about what gets you closer to finishing the problem and what makes it less likely that you’ll make a mistake. For example, kids sometimes make errors when they need to distribute, so you could try a way where you don’t need to distribute.”
Day 4: Wrap-up lesson

Everyone has done a great job with the work we’ve been doing for the past couple of days. In a few minutes, we are going to give you a short test to see if the work you’ve been doing has made sense to you. Before we take the test, I wanted to go over some of the things that you may have noticed as you’ve been working on solving equations.

(1) There is more than one way to solve an equation. Any way is ok as long as you always keep the two sides of the equation equal.

You looked at lots of examples of students’ work as they solved equations, and you noticed that different students solved equations in different ways. A solution is correct as long as you keep the two sides of the equation equal—by doing the same thing to both sides or by simply combining or distributing terms on one side.

(2) Some ways to solve an equation are better than other ways.

When you looked at the examples, you may have noticed that some ways are better than other ways to solve the equations. Here is an example. Let’s say you were given the equation:

\[3x - 4 = 5\]

One way that you might solve this equation is to add 4 to both sides. [Write + 4 on both sides of the equation to show this, and then write the result, \(3x = 9\).] Doing this step seems like a good idea, because it gets you the line \(3x = 9\), which means you are almost done solving the equation.

Another way that you might solve this equation is to add 10 to both sides. [Write +10 on both sides of the equation to show this, and then write the result, \(3x + 6 = 15\).] It is fine to do this step since you did the same thing to both sides. But, it doesn’t seem like a good idea, because it doesn’t help you get closer to solving the equation.

So there is more than one way to solve this equation, but some ways are better than other ways because they get you closer to being able to finish the problem.

Here’s another example to show this. Let’s say you were given the equation:

\[\frac{3}{10}x + \frac{7}{10} = \frac{13}{10}\]

One way to solve this equation is to subtract \(\frac{7}{10}\) from both sides. [Write \(-\frac{7}{10}\) on both sides of the equation to show this, and then write the result, \(\frac{3}{10}x = \frac{6}{10}\).]
This is a fine first step because you did the same thing to both sides, but there are other ways to solve this equation that you might think are better. For example, what if you first multiply both sides of the equation by 10? [Write x 10 on both sides, and then write the result, 3x + 7 = 13.] This is a different way to start solving this equation, and since it got rid of the fractions, you might find this way to be easier or better, or this way might make you less likely to make mistakes.

So sometimes some ways of solving an equation are better because they are easier for you or they make it less likely that you’ll make a mistake.

So to review [have these on an overhead],

(1) There is more than one way to solve an equation. Any way is ok as long as you always keep the two sides of the equation equal.

(2) Some ways to solve an equation are better than other ways, because they get you closer to being able to finish the problem, because they are easier for you to do, or because they make it less likely that you’ll make a mistake.

Now we are going to give out a short test that we’d like you to take on solving equations. [Give out quiz, give quiz instructions to class.]