

Variable Scramble with Distribution

Use with: Math by Myself or Math with Someone

Concept	Represent a problem as an equation with a letter standing for the unknown quantity. Use a self-selected strategy to find the value of the unknown number.
Materials Needed	Each student/pair of students will need: <ul style="list-style-type: none"> • Two six-sided dice • <i>Solving for an Unknown Number with Distribution</i> Activity Sheet (copied front-to-back) • Pencil or pen
Directions	Students will independently or in pairs write and solve the equations. <ol style="list-style-type: none"> 1. Roll the pair of dice. Record the value of one die in the first blank and the value of the second die in the second blank. <i>For example, let's say I roll the dice and one lands on 2 and the other lands on 4, my equation looks like this: $2(x + 4) = \underline{\hspace{2cm}}$</i> 2. Roll the dice, again. Multiply the values of the dice together. Record this new value in the third blank. <i>For example, let's say I roll the pair of dice and one die lands on 6 and the other lands on 5. If I multiply 6×5, my total value equals 30. So, I would record my equation as: $2(x + 4) = 30$</i> 3. Students will distribute, and solve, recording their work in the strategy/procedure section of the recording sheet, to find the value of the unknown number. 4. Record the value of the unknown number in the <i>Variable Value</i> column of the recording sheet (In the example $x = 11$)
Differentiate	<p>To differentiate for students who are struggling:</p> <ul style="list-style-type: none"> • Provide number lines to students as an additional tool to help them solve. • Instead of multiplying dice for step 3, add instead. <p>To differentiate for students who are more advanced:</p> <ul style="list-style-type: none"> • Students can roll both dice for each blank in the equation. They can add or multiply the value of the dice, making larger numbers to work with.