

# Homework - name on it and turn in the basket!

## Solutions to Systems of Linear Equations

One Solution	No Solution	Infinitely Many Solutions
<p>Example:  <math>-2x - 9y = -25</math>  <math>-4x - 9y = -23</math></p> <p>Graph:  <i>one solution</i></p> <p>Substitute:  <math>x=2</math>      <math>(2, 3)</math>  <i>Plug in and solve for y</i></p> <p>Eliminate:      Pick letter to eliminate - solve      for other <math>x=2</math>      Plug in # &amp; solve      for y <math>(2, 5)</math></p>	<p>Example:  <math>-3x + 3y = 4</math>  <math>-x + y = 3</math></p> <p>Graph:  <i>parallel lines</i></p> <p>Substitute:  <math>2 = 1</math>      <math>7 = 42</math>  <i>Variables gone</i></p> <p>Eliminate:  <del><math>x</math></del>      <math>y = 10</math>  <del><math>x</math></del>      <math>y = -3</math></p> <p><math>\bigcirc = 7</math></p>	<p>Example:  <math>2x + 8y = 6</math>  <math>-5x - 20y = -15</math></p> <p>Graph:  <i>same line</i></p> <p>Substitute:  <math>0 = 0</math>      <i>All variables</i>  <math>1 = 1</math>      <i>and #'s go away</i></p> <p>Eliminate:  <del><math>x</math></del>      <math>y = 10</math>  <del><math>x</math></del>      <math>y = -3</math></p> <p><math>\bigcirc = 0</math></p>