

## Clarity for Learning

**Standard KY.HS.A.20 (Algebra 1)** Solve systems of linear equations in two variables.

### Concepts (Nouns)

equation in two variables  
standard form of an equation  
table  
intersection  
parallel

### Skills (Verbs)

solve  
graph  
substitute  
eliminate  
multiply

## Learning Progressions (Unpacking the standard)

*Prerequisites:*

- Substitution
- Solving linear equations and inequalities
- Graphing lines in slope-intercept and standard form

*Grade Level Skills:*

- Determine if an ordered pair is a solution to a system of equations.
- Determine if a system has one solution, no solution, or infinitely many solutions.
- Use tables to estimate the solution to a system of equations (include use of graphing calculator and Desmos).
- Solve a system of equations by graphing (use graphing calculator and Desmos).
- Solve a system of equations by substitution.
- Solve a system of equations by elimination (possibly requiring multiplication).
- Solve real-world problems using systems of equations.
- Solve systems of linear equations in two variables.
- Understand a system of two equations in two variables has the same solution as a new system formed by replacing one of the original equations with an equivalent equation.
- Solve systems of linear equations with graphs, substitution, and elimination, focusing on pairs of linear equations in two variables.

*Clarifications:*

Students will realize that systems of equations can have no, one, or infinitely many solutions. Tables and graphs may produce estimated solutions rather than exact solutions.

<b>Learning Intentions (I am learning to...)</b>	<b>Success Criteria (I know I'm successful when...)</b>
Solve systems of linear equations in two variables.	<ul style="list-style-type: none"><li>● I can graph systems of linear equations in two variables to find an approximate solution.</li><li>● I can write a system of linear equations in two variables to represent real-world problems</li><li>● I can use the substitution method to solve systems of equations.</li><li>● I can represent situations as systems of equations and interpret solutions as viable/nonviable options for the situation.</li><li>● I can solve systems of linear equations by elimination and prove that the sum of one equation and a multiple of the other produces a system with the same solutions as the original system.</li><li>● I can represent constraints with a system of equations in a modeling context.</li></ul>