



# Systems of Linear Equations - #CSandMath



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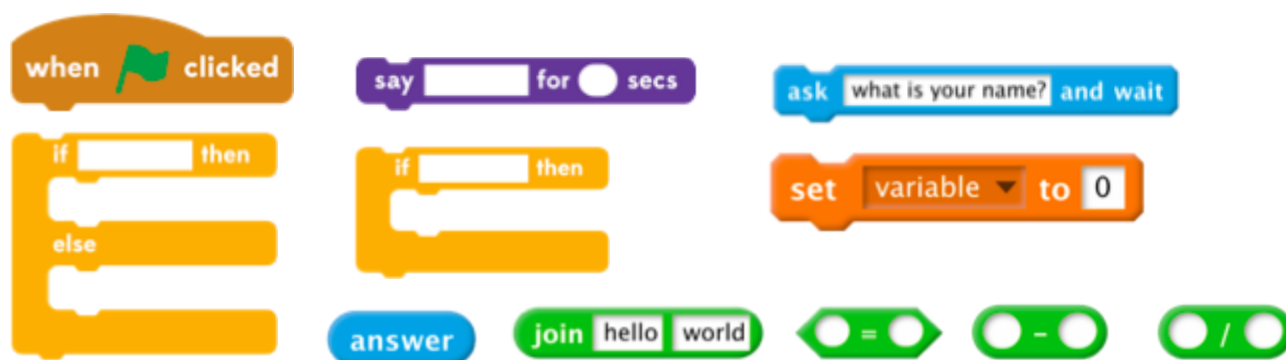
## Project Goal:

Given two lines in slope-intercept form, find the intersection point between the lines.

## Standard:

8.2.4.8 Understand that a system of linear equations may have no solution, one solution, or an infinite number of solutions. Relate the number of solutions to pairs of lines that are intersecting, parallel or identical. Check whether a pair of numbers satisfies a system of two linear equations in two unknowns by substituting the numbers into both equations.

## Blocks:



## Student Handout:

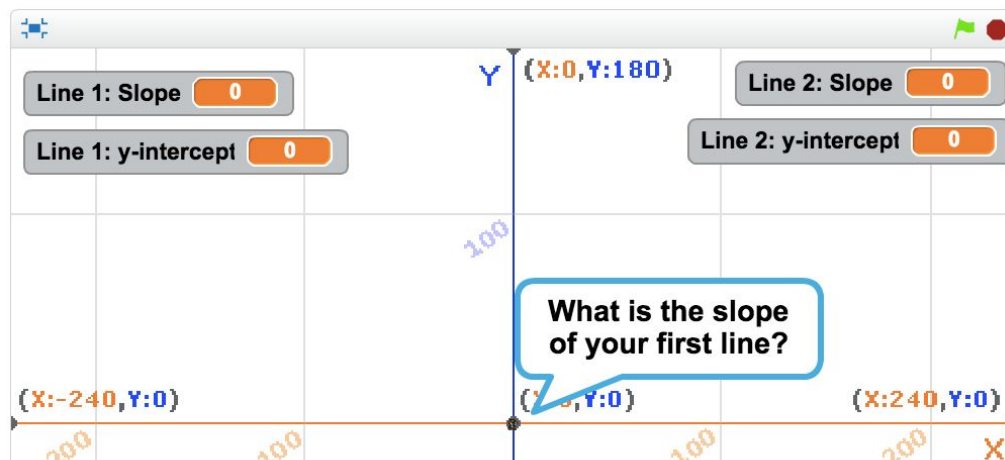
[Systems of Linear Equations Introduction](#)

## Teacher Guide:

[Step-by-Step Instructions](#)



Solution:



```
when clicked
  set Line 1: y-intercept to 0
  set Line 1: Slope to 0
  set Line 2: y-intercept to 0
  set Line 2: Slope to 0
  go to x: 0 y: 0
  say Let's add our first line. for 2 secs
  ask What is the slope of your first line? and wait
  set Line 1: Slope to answer
  ask What is the y-intercept of your first line? and wait
  set Line 1: y-intercept to answer
  say Now let's add our next line. for 2 secs
  ask What is the slope of your second line? and wait
  set Line 2: Slope to answer
  ask What is the y-intercept of your second line? and wait
  set Line 2: y-intercept to answer
  broadcast intersection
```



```
when I receive Intersection
  if Line 1: Slope = Line 2: Slope then
    if Line 1: y-Intercept = Line 2: y-Intercept then
      say There are infinitely many solutions. for 2 secs
    else
      say There is no solution. for 2 secs
  else
    set Intersection x to (Line 2: y-Intercept - Line 1: y-Intercept) / (Line 1: Slope - Line 2: Slope)
    set Intersection y to (Line 1: Slope * Intersection x) + Line 1: y-Intercept
    say join The solution to this system is join ( join Intersection x join , join Intersection y ) for 10 secs
```