



# Conquering Quadratics - Real Solutions

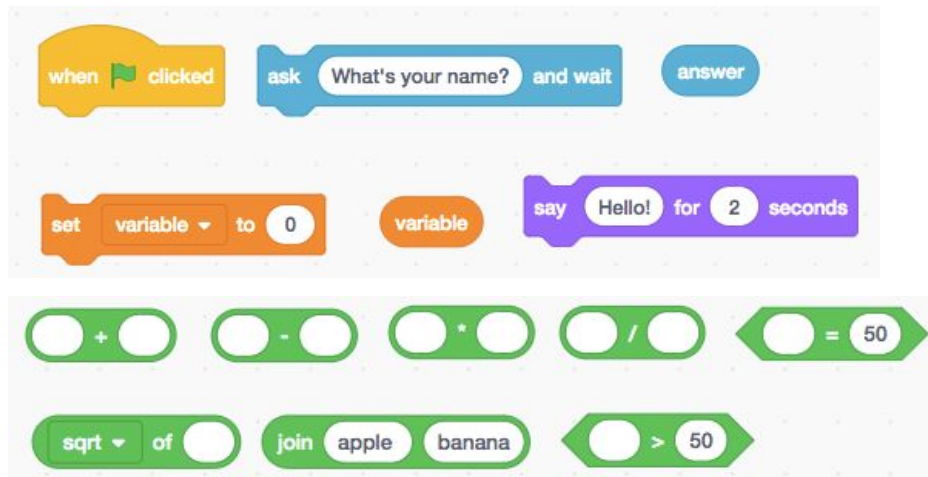
## Project Goal:

Students will create a program that will use the quadratic formula to calculate zeros of a quadratic equation.

## Standard: [CCSS.MATH.CONTENT.HSA.REI.B.4.B](#)

Solve quadratic equations by inspection (e.g., for  $x^2 = 49$ ), taking square roots, completing the square, the quadratic formula and factoring, as appropriate to the initial form of the equation.

## Blocks:



**Student Handout:** [Conquering Quadratics Student Guide](#)

**Teacher Guide:** [Conquering Quadratics- Real Solutions Video Tutorial](#)





### Potential Solution:

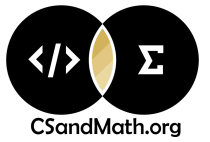
```
when clicked
  ask "What's the a value?" and wait
  set a to answer
  ask "What's the b value?" and wait
  set b to answer
  ask "What's the c value?" and wait
  set c to answer
  set discriminant to (b * b - 4 * a * c)
```

```
if (discriminant > 0) then
  Root Calculation
  say "The roots are Zero 1 and Zero 2"
else
  if (discriminant = 0) then
    Root Calculation
    say "The root is Zero 1"
  else
    say "There are no real solutions." for 2 seconds
```





@ashleyanntewes



```
define reset
  set discriminant to ?
  set Zero 1 to ?
  set Zero 2 to ?
```

```
define Root Calculation
  set Zero 1 to (-1 * b + sqrt of discriminant) / (2 * a)
  set Zero 2 to (-1 * b - sqrt of discriminant) / (2 * a)
```

# #CSandMath



@BoundsofoutMath & @ashleyanntewes