**Sum and Product of Roots**

## What is the point of learning this?

## No Idea LMAO

## Definition

* A quadratic equation has the general form
* Making the coefficient of to be 1, becomes
* If we are given the roots of the quadratic equation α and β
* Comparing the coefficient
  + Sum of roots
  + Product of roots
  + Where
  + Equation 2 in words

## Proof

1. Sum Of Roots
2. Product Of Roots

## Useful Identities

* + =

## Exercise

1. Type A – Find the Value of expressions
   1. The equation has roots and . Find the value of
2. Type B – Forming other equations
   1. The equation has roots. Form an equation whose roots are
   2. The equation has roots and.
      1. Find an equation whose roots are
      2. Two Distinct equations whose roots are

Find

1. Type C – Solve Unknowns
2. Given that have non-zero roots which differ by 2, find the value of each root and of k.

Let roots be