

이차식의 근과 계수의 관계 (Vieta's Formula in Quadratic Equations)

Vieta's Formula in Quadratic Equations

▶ Start

▶ End

▶ Start

▶ End

Let

▶ Start

▶ End

Let α

▶ Start

▶ End

Let α, β

▶ Start

▶ End

Let α, β be the roots

▶ Start

▶ End

Let α, β be the roots of the equation.

▶ Start

▶ End

Let α, β be the roots of the equation.

$$ax^2 + bx + c = 0$$

▶ Start

▶ End

Let α, β be the roots of the equation.

$$ax^2 + bx + c = 0 \quad (a \neq 0)$$

▶ Start

▶ End

Let α, β be the roots of the equation.

$$ax^2 + bx + c = 0 \quad (a \neq 0)$$

α

▶ Start

▶ End

Let α, β be the roots of the equation.

$$ax^2 + bx + c = 0 \quad (a \neq 0)$$

$$\alpha +$$

▶ Start

▶ End

Let α, β be the roots of the equation.

$$ax^2 + bx + c = 0 \quad (a \neq 0)$$

$$\alpha + \beta$$

▶ Start

▶ End

Let α, β be the roots of the equation.

$$ax^2 + bx + c = 0 \quad (a \neq 0)$$

$$\alpha + \beta =$$

▶ Start

▶ End

Let α, β be the roots of the equation.

$$ax^2 + bx + c = 0 \quad (a \neq 0)$$

$$\alpha + \beta = -\frac{b}{a}$$

▶ Start

▶ End

Let α, β be the roots of the equation.

$$ax^2 + bx + c = 0 \quad (a \neq 0)$$

$$\alpha + \beta = -\frac{b}{a},$$

▶ Start

▶ End

Let α, β be the roots of the equation.

$$ax^2 + bx + c = 0 \quad (a \neq 0)$$

$$\alpha + \beta = -\frac{b}{a}, \quad \alpha$$

▶ Start

▶ End

Let α, β be the roots of the equation.

$$ax^2 + bx + c = 0 \quad (a \neq 0)$$

$$\alpha + \beta = -\frac{b}{a}, \quad \alpha\beta$$

▶ Start

▶ End

Let α, β be the roots of the equation.

$$ax^2 + bx + c = 0 \quad (a \neq 0)$$

$$\alpha + \beta = -\frac{b}{a}, \quad \alpha\beta =$$

▶ Start

▶ End

Let α, β be the roots of the equation.

$$ax^2 + bx + c = 0 \quad (a \neq 0)$$

$$\alpha + \beta = -\frac{b}{a}, \quad \alpha\beta = \frac{c}{a}$$

▶ proof

Vieta's Formula in Quadratic Equations

▶ Home

▶ Start

▶ End

Vieta's Formula in Quadratic Equations

▶ Home

▶ Start

▶ End

Vieta's Formula in Quadratic Equations

▶ Home

▶ Start

▶ End

}

[▶ Home](#)[▶ Start](#)[▶ End](#)

$$\begin{cases} (x - \alpha)(x - \beta) = 0 \end{cases}$$

[▶ Home](#)[▶ Start](#)[▶ End](#)

$$\begin{cases} (x - \alpha)(x - \beta) & = & 0 \\ ax^2 + bx + c & = & 0 \end{cases}$$

[▶ Home](#)[▶ Start](#)[▶ End](#)

$$\begin{cases} (x - \alpha)(x - \beta) & = 0 \\ ax^2 + bx + c & = 0 \quad (a \neq 0) \end{cases}$$

[▶ Home](#)[▶ Start](#)[▶ End](#)

$$\begin{cases} (x - \alpha)(x - \beta) &= 0 \\ ax^2 + bx + c &= 0 \quad (a \neq 0) \end{cases}$$

$$\left\{ \right.$$

[▶ Home](#)[▶ Start](#)[▶ End](#)

$$\begin{cases} (x - \alpha)(x - \beta) &= 0 \\ ax^2 + bx + c &= 0 \quad (a \neq 0) \end{cases}$$

$$\begin{cases} x^2 \end{cases}$$

[▶ Home](#)[▶ Start](#)[▶ End](#)

$$\begin{cases} (x - \alpha)(x - \beta) &= 0 \\ ax^2 + bx + c &= 0 \quad (a \neq 0) \end{cases}$$

$$\begin{cases} x^2 &- \end{cases}$$

[▶ Home](#)[▶ Start](#)[▶ End](#)

$$\begin{cases} (x - \alpha)(x - \beta) &= 0 \\ ax^2 + bx + c &= 0 \quad (a \neq 0) \end{cases}$$

$$\begin{cases} x^2 &- (\alpha + \beta) \end{cases}$$

[▶ Home](#)[▶ Start](#)[▶ End](#)

$$\begin{cases} (x - \alpha)(x - \beta) &= 0 \\ ax^2 + bx + c &= 0 \quad (a \neq 0) \end{cases}$$

$$\begin{cases} x^2 &- (\alpha + \beta)x \end{cases}$$

[▶ Home](#)[▶ Start](#)[▶ End](#)

$$\begin{cases} (x - \alpha)(x - \beta) = 0 \\ ax^2 + bx + c = 0 \quad (a \neq 0) \end{cases}$$

$$\begin{cases} x^2 - (\alpha + \beta)x + \end{cases}$$

[▶ Home](#)[▶ Start](#)[▶ End](#)

$$\begin{cases} (x - \alpha)(x - \beta) = 0 \\ ax^2 + bx + c = 0 \quad (a \neq 0) \end{cases}$$

$$\begin{cases} x^2 - (\alpha + \beta)x + \alpha\beta \end{cases}$$

[▶ Home](#)[▶ Start](#)[▶ End](#)

$$\begin{cases} (x - \alpha)(x - \beta) = 0 \\ ax^2 + bx + c = 0 \quad (a \neq 0) \end{cases}$$

$$\begin{cases} x^2 - (\alpha + \beta)x + \alpha\beta = \end{cases}$$

[▶ Home](#)[▶ Start](#)[▶ End](#)

$$\begin{cases} (x - \alpha)(x - \beta) = 0 \\ ax^2 + bx + c = 0 \quad (a \neq 0) \end{cases}$$

$$\begin{cases} x^2 - (\alpha + \beta)x + \alpha\beta = 0 \end{cases}$$

[▶ Home](#)[▶ Start](#)[▶ End](#)

$$\begin{cases} (x - \alpha)(x - \beta) = 0 \\ ax^2 + bx + c = 0 \quad (a \neq 0) \end{cases}$$

$$\begin{cases} x^2 - (\alpha + \beta)x + \alpha\beta = 0 \\ x^2 \end{cases}$$

[▶ Home](#)[▶ Start](#)[▶ End](#)

$$\begin{cases} (x - \alpha)(x - \beta) &= 0 \\ ax^2 + bx + c &= 0 \quad (a \neq 0) \end{cases}$$

$$\begin{cases} x^2 - (\alpha + \beta)x + \alpha\beta &= 0 \\ x^2 + \end{cases}$$

[▶ Home](#)[▶ Start](#)[▶ End](#)

$$\begin{cases} (x - \alpha)(x - \beta) &= 0 \\ ax^2 + bx + c &= 0 \quad (a \neq 0) \end{cases}$$

$$\begin{cases} x^2 - (\alpha + \beta)x + \alpha\beta &= 0 \\ x^2 + \frac{b}{a} & \end{cases}$$

[▶ Home](#)[▶ Start](#)[▶ End](#)

$$\begin{cases} (x - \alpha)(x - \beta) &= 0 \\ ax^2 + bx + c &= 0 \quad (a \neq 0) \end{cases}$$

$$\begin{cases} x^2 - (\alpha + \beta)x + \alpha\beta &= 0 \\ x^2 + \frac{b}{a}x & \end{cases}$$

[▶ Home](#)[▶ Start](#)[▶ End](#)

$$\begin{cases} (x - \alpha)(x - \beta) &= 0 \\ ax^2 + bx + c &= 0 \quad (a \neq 0) \end{cases}$$

$$\begin{cases} x^2 - (\alpha + \beta)x + \alpha\beta &= 0 \\ x^2 + \frac{b}{a}x + \frac{c}{a} &= 0 \end{cases}$$

[▶ Home](#)[▶ Start](#)[▶ End](#)

$$\begin{cases} (x - \alpha)(x - \beta) &= 0 \\ ax^2 + bx + c &= 0 \quad (a \neq 0) \end{cases}$$

$$\begin{cases} x^2 - (\alpha + \beta)x + \alpha\beta &= 0 \\ x^2 + \frac{b}{a}x + \frac{c}{a} & \end{cases}$$

[▶ Home](#)[▶ Start](#)[▶ End](#)

$$\begin{cases} (x - \alpha)(x - \beta) &= 0 \\ ax^2 + bx + c &= 0 \quad (a \neq 0) \end{cases}$$

$$\begin{cases} x^2 - (\alpha + \beta)x + \alpha\beta &= 0 \\ x^2 + \frac{b}{a}x + \frac{c}{a} &= 0 \end{cases}$$

[▶ Home](#)[▶ Start](#)[▶ End](#)

$$\begin{cases} (x - \alpha)(x - \beta) &= 0 \\ ax^2 + bx + c &= 0 \quad (a \neq 0) \end{cases}$$

$$\begin{cases} x^2 - (\alpha + \beta)x + \alpha\beta &= 0 \\ x^2 + \frac{b}{a}x + \frac{c}{a} &= 0 \end{cases}$$

[▶ Home](#)[▶ Start](#)[▶ End](#)

$$\begin{cases} (x - \alpha)(x - \beta) &= 0 \\ ax^2 + bx + c &= 0 \quad (a \neq 0) \end{cases}$$

$$\begin{cases} x^2 - (\alpha + \beta)x + \alpha\beta &= 0 \\ x^2 + \frac{b}{a}x + \frac{c}{a} &= 0 \end{cases}$$

$$\left\{ \right.$$

[▶ Home](#)[▶ Start](#)[▶ End](#)

$$\begin{cases} (x - \alpha)(x - \beta) &= 0 \\ ax^2 + bx + c &= 0 \quad (a \neq 0) \end{cases}$$

$$\begin{cases} x^2 - (\alpha + \beta)x + \alpha\beta &= 0 \\ x^2 + \frac{b}{a}x + \frac{c}{a} &= 0 \end{cases}$$

$$\begin{cases} \alpha + \beta \end{cases}$$

[▶ Home](#)[▶ Start](#)[▶ End](#)

$$\begin{cases} (x - \alpha)(x - \beta) &= 0 \\ ax^2 + bx + c &= 0 \quad (a \neq 0) \end{cases}$$

$$\begin{cases} x^2 - (\alpha + \beta)x + \alpha\beta &= 0 \\ x^2 + \frac{b}{a}x + \frac{c}{a} &= 0 \end{cases}$$

$$\begin{cases} \alpha + \beta &= \end{cases}$$

[▶ Home](#)[▶ Start](#)[▶ End](#)

$$\begin{cases} (x - \alpha)(x - \beta) &= 0 \\ ax^2 + bx + c &= 0 \quad (a \neq 0) \end{cases}$$

$$\begin{cases} x^2 - (\alpha + \beta)x + \alpha\beta &= 0 \\ x^2 + \frac{b}{a}x + \frac{c}{a} &= 0 \end{cases}$$

$$\begin{cases} \alpha + \beta &= -\frac{b}{a} \end{cases}$$

[▶ Home](#)[▶ Start](#)[▶ End](#)

$$\begin{cases} (x - \alpha)(x - \beta) &= 0 \\ ax^2 + bx + c &= 0 \quad (a \neq 0) \end{cases}$$

$$\begin{cases} x^2 - (\alpha + \beta)x + \alpha\beta &= 0 \\ x^2 + \frac{b}{a}x + \frac{c}{a} &= 0 \end{cases}$$

$$\begin{cases} \alpha + \beta &= -\frac{b}{a} \\ \alpha\beta & \end{cases}$$

[▶ Home](#)[▶ Start](#)[▶ End](#)

$$\begin{cases} (x - \alpha)(x - \beta) &= 0 \\ ax^2 + bx + c &= 0 \quad (a \neq 0) \end{cases}$$

$$\begin{cases} x^2 - (\alpha + \beta)x + \alpha\beta &= 0 \\ x^2 + \frac{b}{a}x + \frac{c}{a} &= 0 \end{cases}$$

$$\begin{cases} \alpha + \beta &= -\frac{b}{a} \\ \alpha\beta &= \frac{c}{a} \end{cases}$$

[▶ Home](#)[▶ Start](#)[▶ End](#)

$$\begin{cases} (x - \alpha)(x - \beta) &= 0 \\ ax^2 + bx + c &= 0 \quad (a \neq 0) \end{cases}$$

$$\begin{cases} x^2 - (\alpha + \beta)x + \alpha\beta &= 0 \\ x^2 + \frac{b}{a}x + \frac{c}{a} &= 0 \end{cases}$$

$$\begin{cases} \alpha + \beta &= -\frac{b}{a} \\ \alpha\beta &= \frac{c}{a} \end{cases}$$

Github:

<https://min7014.github.io/math20210204001.html>

Click or paste URL into the URL search bar,
and you can see a picture moving.