

Vieta's Formula in Cubic Equations

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Let α, β

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Let α, β, γ

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Let α, β, γ be the roots

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Let α, β, γ be the roots of the equation.

$$ax^3 + bx^2 + cx + d = 0$$

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$$ax^3 + bx^2 + cx + d = 0 \quad (a \neq 0)$$

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Let α, β, γ be the roots of the equation.

$$ax^3 + bx^2 + cx + d = 0 \quad (a \neq 0)$$

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

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$$\left\{ \begin{array}{l} (x - \alpha)(x - \beta)(x - \gamma) = 0 \end{array} \right.$$

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$$\begin{cases} (x - \alpha)(x - \beta)(x - \gamma) = 0 \\ ax^3 + bx^2 + cx + d = 0 \quad (a \neq 0) \end{cases}$$

$$\begin{cases} x^3 - (\alpha + \beta + \gamma) \end{cases}$$

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$$\left\{ \begin{array}{l} \alpha + \beta \\ \alpha + \beta + \gamma \\ \alpha\beta + \beta\gamma + \gamma\alpha \\ \alpha\beta\gamma \end{array} \right.$$

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