

Vieta's theorem

Vieta's theorem: For the roots x_1 and x_2 equation $ax^2 + bx + c = 0$ the following holds:

$$\begin{cases} x_1 + x_2 = -\frac{b}{a}, \\ x_1 \cdot x_2 = \frac{c}{a}. \end{cases}$$

№9. Without calculating the discriminant, find the value of a for which the equation

1. $x^2 + 28x + a = 0,$

2. $x^2 + ax + 36 = 0$

has exactly one root. Find that root.

№10. For what value of b are the roots of the equation $x^2 + bx - 7 = 0$ opposite numbers??

№11. Find the sum of the squares of the roots of the equation $7x^2 + 13x - 9 = 0$.