

Раскрытие квадратов

$$(x + 1)^2(x + 2) + (x - 1)^2(x - 2) = 12$$

$$(x^2 + 2x + 1)(x+2) + (x^2 - 2x + 1)(x-2) = 12$$

$$x^3 + 2x^2 + x + 2x^2 + 4x + 2 + x^3 - 2x^2 + x - 2x^2 + 4x - 2 = 12$$

$$2x^3 + 10x = 12 \quad | /2$$

$$x^3 + 5x = 6$$

$$x^3 + 5x - 6 = 0$$

$$x^3 + 5x - 5 - 1 = 0$$

$$(5x-5) + (x^3 - 1^3) = 0$$

$$5(x-1) + (x-1)(x^2 + x + 1) = 0$$

$$(x-1)(5 + x^2 + x + 1) = 0$$

$$x-1 = 0 \quad x = 1$$

$$\text{или } x^2 + x + 6 = 0$$

$$x_1 = -3$$

$$x_2 = 2$$

Ответ: 1

