

$$1) 25 * x^4 - 109 * x^2 + 36 = 0$$

$$2) \text{ДЗ } x^4 + 5 * x^2 + 6 = 0$$

Let $x^2 = t$

$$1) 25t^2 - 109t + 36 = 0$$

$$D = b^2 - 4ac = 109^2 - 4 * 25 * 36 = 109^2 - 2^2 * 5^2 * 6^2 = 109^2 - (2 * 5 * 6)^2 = (109 - (2 * 5 * 6))(109 + (2 * 5 * 6)) = (109 - 60)(109 + 60) = 49 * 169; D > 0; VD = 7 * 13 = 91;$$

$$t_1 = (-b + VD) / (2a) = (109 + 91) / (2 * 25) = (109 + 91) / 50 = 4;$$

or

$$t_2 = (-b - VD) / (2a) = (109 - 91) / (2 * 25) = (109 - 91) / 50 = 18 / 50 = 9 / 25.$$

$$x^2 = 4;$$

$$x^2 - 4 = 0;$$

$$(x - 2)(x + 2) = 0;$$

$$x_1 = 2;$$

or

$$x_2 = -2;$$

or

$$x^2 = 9 / 25$$

$$x^2 - 9 / 25 = 0$$

$$(x - \frac{3}{5})(x + \frac{3}{5}) = 0$$

$$x_3 = \frac{3}{5}$$

or

$$x_4 = -\frac{3}{5}$$

Answer: $2; -2; \frac{3}{5}; -\frac{3}{5}$

$$x^2 = 4$$

$$x^2 - 4 = 0$$

$$(x - 2)(x + 2) = 0$$



$$x^4 + 5 * x^2 + 6 = 0;$$

$$1 + 5 + 6 < 0$$

$$\text{let } x^2 = r$$

$$r^2 + 5r + 6 = 0;$$

$$D = b^2 - 4ac = 5^2 - 4 * 1 * 6 = 25 - 24 = 1; D > 1; VD = 1;$$

$$r_1 = (-5 + 1) / 2 = -2;$$

$$r_2 = (-5 - 1) / 2 = -3;$$

$$x^2 = -2;$$

$$x^2 + 2 = 0;$$

failure ((
no solutions

$$(x + \sqrt{2})(x + \sqrt{2}) = 0;$$

$$x_1 = -\sqrt{2};$$

$$x^2 = -3;$$

$$x^2 + 3 = 0;$$

$$(x + \sqrt{3})(x + \sqrt{3}) = 0;$$

$$x_2 = -\sqrt{3};$$

Answer: $-\sqrt{2}; -\sqrt{3}$

$$(-2^{\frac{1}{2}})^4 + 5 * (-2^{\frac{1}{2}})^2 + 6 = 0;$$

$$4 + 5 * (-2) + 6 = 0.$$

$$(-3^{\frac{1}{2}})^4 + 5 * (-3^{\frac{1}{2}})^2 + 6 = 0;$$

$$9 + 5 * (-3) + 6 = 0.$$

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