

Для решения нижеизложенных уравнений да помогут вам 2-е великие формулы

$$(x + y)^2 = x^2 + 2xy + y^2$$

$$x^2 - y^2 = (x + y)(x - y)$$



$$1) x^2 + 2 * x + 1 = 0$$

$$2) x^2 - 6 * x + 9 = 0$$

$$3) x^2 - 10 * x + 25 = 0$$

$$4) x^2 - 10 * x + 16 = 0$$

$$5) x^2 - 10 * x + 34 = 0$$

$$6) x^2 - 10 * x + 10 = 0$$

$$7) 4x^2 - 12 * x + 9 = 0$$

$$8) 25x^2 - 10 * x + 10 = 0$$

$$9) 16x^2 - 24 * x + 10 = 0$$

$$10) 2x^2 - 8 * x + 8 = 0$$

$$11) 2x^2 - 12 * x + 18 = 0$$

$$12) 27x^2 - 18 * x + 12 = 0$$

$$13) 4x^2 - 24 * x + 36 = 0$$

$$14) 4x^2 - 24 * x + 20 = 0$$

$$15) 3x^2 - 12 * x - 4 = 0$$

$$16) 3x^2 - 15 * x - 4 = 0$$

$$17) 3x^2 - 15 * x - 27 = 0$$

$$18) (!!!)(*) a * x^2 + b * x + c = 0$$

$$x^2 + 2 * x + 1 = 0;$$

$$x^2 + 2x(1) + 1^2 = 0;$$

$$(x+1)^2 = 0;$$

$$x = -1;$$

$$x^2 - 6 * x + 9 = 0;$$

$$x^2 - 2(3)x + 3^2 = 0;$$

$$(x-3)^2 = 0;$$

$$x = 3;$$

$$x^2 - 10 * x + 25 = 0;$$

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

$$(x-5)^2 = 0;$$

$$x = 5;$$

$$x^2 - 10 * x + 16 = 0;$$

$$x^2 - 2(5)x + 5^2 - 5^2 + 16 = 0;$$

$$(x-5)^2 - 5^2 + 16 = 0;$$

$$(x-5)^2 - 9 = 0;$$

$$((x-5)+3)((x-5)-3) = 0;$$

$$(x-5+3)(x-5-3) = 0;$$

$$(x-2)(x-8) = 0;$$

$$x1 = 2;$$

$$x2 = 8;$$

$$x^2 - 10 * x + 34 = 0;$$

$$x^2 - 2(5)x + 5^2 - 5^2 + 34 = 0;$$

$$(x-5)^2 - 5^2 + 34 = 0;$$

$$(x-5)^2 + 9 = 0$$

$$(x-5)^2 = -9$$

no solutions

$$x^2 - 10 * x + 10 = 0$$

$$x^2 - 2(5)x + 5^2 - 5^2 + 10 = 0;$$

$$(x-5)^2 - 5^2 + 10 = 0;$$

$$(x-5)^2 - 15 = 0;$$

$$((x-5)+\sqrt{15})((x-5)-\sqrt{15}) = 0;$$

$$(x-5+\sqrt{15})(x-5-\sqrt{15}) = 0;$$

$$x1 = 5 - \sqrt{15};$$

$$x2 = 5 + \sqrt{15};$$

$$4x^2 - 12 * x + 9 = 0;$$

$$(2x)^2 - 2(3)2x + 3^2 = 0;$$

$$(2x-3)^2 = 0;$$

$$x = 1,5;$$

$$25x^2 - 10 * x + 10 = 0;$$

$$(5x)^2 - 2(1)(5x) + 1^2 - 1^2 + 10 = 0;$$

$$(5x-1)^2 - 1 + 10 = 0;$$

$$(5x-1)^2 + 9 = 0;$$

$$(5x-1)^2 = -9;$$

no solutions

$$16x^2 - 24 * x + 10 = 0;$$

$$(4x)^2 - 2(3)(4x) + 3^2 - 3^2 + 10 = 0;$$

$$(4x-3)^2 - 3^2 + 10 = 0;$$

$$(4x-3)^2 + 1 = 0;$$

no solutions

$$2x^2 - 8 * x + 8 = 0;$$

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

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

$$x = 2;$$

$$2x^2 - 12 * x + 18 = 0;$$

$$2(x^2 - 2(3)x + 3^2) = 0;$$

$$2(x-3)^2 = 0;$$

$$x = 3;$$

$$27x^2 - 18 * x + 12 = 0;$$

$$3((3x)^2 - 2(1)(3x) + 1^2 - 1^2 + 4) = 0;$$

$$3((3x-1)^2 - 1 + 4) = 0;$$

$$3((3x-1)^2 + 3) = 0; | :3$$

$$(3x-1)^2 + 3 = 0;$$

no solutions

$$4x^2 - 24 * x + 36 = 0;$$

$$4(x^2 - 2(3)x + 3^2) = 0;$$

$$4(x-3)^2 = 0;$$

$$x = 3;$$

$$4x^2 - 24 * x + 20 = 0;$$

$$4(x^2 - 2(3)x + 3^2 - 3^2 + 5) = 0;$$

$$4((x-3)^2 - 9 + 5) = 0;$$

$$4((x-3)^2 - 4) = 0; | :4$$

$$(x-3)^2 - 4 = 0;$$

$$((x-3)+2)((x-3)-2) = 0;$$

$$(x-3+2)(x-3-2) = 0;$$

$$(x-1)(x-5) = 0;$$

$$x1 = 1$$

$$x2 = 5$$

$$3x^2 - 12 * x - 4 = 0;$$

$$3(x^2 - 2(2)x + 2^2 - 2^2 - 4/3) = 0;$$

$$3((x-2)^2 - 4 - 4/3) = 0; | :3$$

$$(x-2)^2 - 4 - 4/3 = 0;$$

$$(x-2)^2 - 16/3 = 0;$$

$$((x-2)+4/\sqrt{3})((x-2)-4/\sqrt{3}) = 0;$$

$$(x-2+4/\sqrt{3})(x-2-4/\sqrt{3}) = 0;$$

$$x1 = 2 - 4/\sqrt{3};$$

$$x2 = 2 + 4/\sqrt{3};$$

$$3x^2 - 15 * x - 4 = 0;$$

$$3(x^2 - 5x - 4/3) = 0; | :3$$

$$x^2 - 5x - 4/3 = 0;$$

$$x^2 - 2(5/2)x + (5/2)^2 - (5/2)^2 - 4/3 = 0;$$

$$(x-5/2)^2 - 25/4 - 4/3 = 0;$$

$$(x-5/2)^2 - 3*25/12 - 4*4/12 = 0;$$

$$(x-5/2)^2 - 91/12 = 0;$$

$$((x-5/2)-\sqrt{91/12})((x-5/2)+\sqrt{91/12}) = 0;$$

$$(x-5/2-\sqrt{91/12})(x-5/2+\sqrt{91/12}) = 0;$$

$$x1 = 5/2 + \sqrt{91/12};$$

$$x2 = 5/2 - \sqrt{91/12};$$

$$3x^2 - 15 * x - 27 = 0;$$

$$3(x^2 - 5x - 9) = 0; | :3$$

$$x^2 - 5x - 9 = 0;$$

$$x^2 - 2(5/2)x + (5/2)^2 - (5/2)^2 - 9 = 0;$$

$$(x-5/2)^2 - 25/4 - 9 = 0;$$

$$(x-5/2)^2 - 25/4 - 36/4 = 0;$$

$$(x-5/2)^2 - 61/4 = 0;$$

$$((x-5/2)-\sqrt{61/4})((x-5/2)+\sqrt{61/4}) = 0;$$

$$(x-5/2-\sqrt{61/4})(x-5/2+\sqrt{61/4}) = 0;$$

$$(x-(5+\sqrt{61})/2)(x-(5-\sqrt{61})/2) = 0;$$

$$x1 = (5+\sqrt{61})/2;$$

$$x2 = (5-\sqrt{61})/2;$$

$$a * x^2 + b * x + c = 0;$$

$$a(x^2 + bx/a + c/a) = 0; | :a$$

$$x^2 + bx/a + c/a = 0;$$

$$x^2 + 2(b/(2a))x + (b/(2a))^2 - (b/(2a))^2 + c/a = 0;$$

$$(x+b/(2a))^2 - b^2/(4a^2) + c/a = 0;$$

$$(x+b/(2a))^2 - b^2/(4a^2) + 4ac/(4a^2) = 0;$$

$$(x+b/(2a))^2 - (b^2 - 4ac)/(4a^2) = 0;$$

$$((x+b/(2a))+\sqrt{(b^2-4ac)/(4a^2)})((x+b/(2a))-\sqrt{(b^2-4ac)/(4a^2)}) = 0;$$

$$(x+b/(2a)+\sqrt{(b^2-4ac)/(4a^2)})(x+b/(2a)-\sqrt{(b^2-4ac)/(4a^2)}) = 0;$$

$$(x+(b+\sqrt{b^2-4ac})/(2a))(x+(b-\sqrt{b^2-4ac})/(2a)) = 0;$$

$$D = b^2 - 4ac$$

$$(x+(b+\sqrt{D})/(2a))(x+(b-\sqrt{D})/(2a)) = 0;$$

$$x1 = (-b-\sqrt{D})/(2a);$$

$$x2 = (-b+\sqrt{D})/(2a);$$

$$a * x^2 + b * x + c = 0;$$

$$D = b^2 - 4ac$$

$$x1 = (-b-\sqrt{D})/(2a);$$

$$x2 = (-b+\sqrt{D})/(2a);$$