

Разность квадратов



$$(a - b)(a + b) = a^2 - b^2$$

$$a^2 - b^2 = (a - b)(a + b)$$

Формула разности квадратов

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

$$2)(c - e)(c + e) = c^2 - e^2$$

$$3)(m + n)(m - n) = m^2 - n^2$$

$$4)(x + e)(x - e) = x^2 - e^2$$

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

$$6)(x + 4)(x - 4) = x^2 - 16$$

$$7)(8 - y)(8 + y) = 64 - y^2$$

$$8)(3a + 1)(3a - 1) = 9a^2 - 1$$

$$9)(3x - a)(3x + a) = 9x^2 - a^2$$

$$10)(3a - 8e)(3a + 8e) = 9a^2 - 64e^2$$

$$11)(3x - 7y)(3x + 7y) = 9x^2 - 49y^2$$

$$12)(3x - 7y)(7x + 3y) \text{ — это не формула}$$

$$13)(5a^2 + v^3)(5a^2 - v^3) = 25a^4 - v^6$$

$$14)(-2a - 9c)(2a - 9c) = -(2a + 9c)(2a - 9c) = \\ = -(4a^2 - 81c^2) = 81c^2 - 4a^2$$

$$15)6x^2 - (2x + 1)(2x - 1) = 6x^2 - (4x^2 - 1) = \\ = 6x^2 - 4x^2 + 1 = 2x^2 + 1$$

$$1) 36 - a^2 = (6 - a)(6 + a)$$

$$2) 49x^2 - 16y^2 = (7x - 4y)(7x + 4y)$$

$$3) 16x^4 - 9 = (4x^2 - 3)(4x^2 + 3)$$

4) *Решите уравнение:*

$$a) x^2 - 100 = 0$$

$$(x - 10) \cdot (x + 10) = 0$$

$$x - 10 = 0 ; x + 10 = 0$$

$$x = 10 \quad x = -10$$

Ответ: ± 10

$$б) y^2 - 4 = 0$$

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

$$y - 2 = 0; \quad y + 2 = 0$$

$$y = 2 \quad y = -2$$

Ответ: 2; -2

5) *Вычислите :*

$$a) 79 \cdot 81 = (80 - 1)(80 + 1) = 6400 - 1 = 6399$$

$$б) 42 \cdot 38 = (40 + 2)(40 - 2) = 1600 - 4 = 1596$$

$$в) \frac{53^2 - 27^2}{79^2 - 51^2} = \frac{(53 - 27)(53 + 27)}{(79 - 51)(79 + 51)} = \frac{26 \cdot 80}{130 \cdot 28} =$$

$$= \frac{1 \cdot 20}{5 \cdot 7} = \frac{4}{7}$$

Самостоятельно :

$$1)(x + y)(x - y)$$

$$2)(p - g)(p + g)$$

$$3)(v + a)(v - a)$$

$$4)(p + 5)(5 - p)$$

$$5)(x + 3)(x - 3)$$

$$6)(1 - c)(1 + c)$$

$$7)(2x - 1)(2x + 1)$$

$$8)(7 + 3y)(7 - 3y)$$

$$9)(n - 3m)(n + 3m)$$

$$10)(2v + 3a)(2v - 3a)$$

$$11)(8c + 9k)(8c - 9k)$$

$$12)(y + 4)(y - 4)$$

$$13)(x^2 - 5)(x^2 + 5)$$

$$14)(4 - y^2)(4 + y^2)$$

$$15)(9a - e^2)(9a + e^2)$$

$$16)(0,7x + y^2)(0,7x - y^2)$$

$$17)(a^3 - e^2)(a^3 + e^2)$$

$$18)(c^4 + d^2)(c^4 - d^2)$$

$$19)(5x^2 + 2y^3)(5x^2 - 2y^3)$$

$$20)(3x^2 - 1)(3x^2 + 1)$$

$$21)(x^3 + 4a)(x^3 - 4a)$$

$$1)(-y + x)(x + y)$$

$$2)(-a + b)(b - a)$$

$$3)(-b - c)(b - c)$$

$$4)(x + y)(-x - y)$$

$$5)(x - y)(y - x)$$

$$6)(-a - b)(-a - b)$$

$$7)(-m^2 + 8)(m^2 + 8)$$

$$8)(5y - y^2)(y^2 + 5y)$$

$$9)(6n^2 + 1)(6n^2 - 1)$$

$$10)2(x - 3)(x + 3)$$

$$11)y(y + 4)(y - 4)$$

$$12)5x(x + 2)(x - 2)$$

$$13)(b - 2)(b + 2)(b^2 + 4)$$

$$14)(3 - y)(3 + y)(9 + y^2)$$

$$15)(a^2 + 1)(a + 1)(a - 1)$$

$$16)(c^4 + 1)(c^2 + 1)(c^2 - 1)$$

$$1) x^2 - y^2$$

$$2) c^2 - y^2$$

$$3) a^2 - 25$$

$$4) m^2 - 1$$

$$5) 16 - e^2$$

$$6) 100 - x^2$$

$$7) x^2 - 64$$

$$8) x^4 - 9$$

$$9) 25 - n^6$$

$$10) m^8 - a^2$$

$$11) a^4 - e^4$$

$$12) c^8 - d^8$$

$$1) x^2 - 16 = 0$$

$$2) y^2 - 81 = 0$$

$$3) \frac{1}{9} x^2 = 0$$

$$4) 25x^2 - 16 = 0$$

$$5) 4x^2 - 9 = 0$$

$$6) x^2 - 1 = 0$$

$$7)(x + 3)^2 - 1$$

$$8)64 - (e + 1)^2$$

$$9)25 - (a + 7)^2$$

$$10)(a + 7)^2 - 36$$