

(!!!)Квадрат суммы и разности (разложить на множители методом группировки)

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

ДЗ

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

$$3) a^2 + b^2 + c^2 + 2ab + 2ac + 2bc = a^2 + b^2 + c^2 + ab + ab + ac + ac + bc + bc = a(a+b+c) + b(b+a+c) + c(c+a+b) = (a+b+c)(a+b+c) = (a+b+c)^2$$

$$a^2 + b^2 + c^2 + 2ab + 2ac + 2bc = (a+b)^2 + 2c(a+b) + c^2 = ((a+b) + c)^2 = (a+b+c)^2$$

$$x^2 + 2xy + y^2 = (x+y)^2 \text{ КВАДРАТ СУММЫ}$$

$$a^2 + b^2 + c^2 + 2ab + 2ac + 2bc = (a+b+c)^2 \text{ КВАДРАТ СУММЫ 3-х СЛАГАЕМЫХ}$$

$$(a+b-c)^2 = a^2 + b^2 + c^2 + 2ab - 2ac - 2bc$$

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

$$(a+b-c)^2 = a^2 + b^2 + c^2 + 2ab - 2ac - 2bc$$

$$(a-b-c)^2 = a^2 + b^2 + c^2 - 2ab - 2ac + 2bc$$

$$ax + 2yb + xb + 2ya = (a+b)(2y+x)$$

$$x^2 + 7x - 8 =$$

$$(x-2)(x-3) = x^2 - 2x - 3x + 6$$

$$(a+b)^2$$

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

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

$$a^2 + b^2 + c^2 + 2ab + 2ac + 2bc = (a+b+c)^2$$
$$a^2 + b^2 + c^2 + d^2 + 2ab + 2ac + 2ad + 2bc + 2bd + 2cd = (a+b+c+d)^2$$

$$[1-]^2 = 3-$$

$$a^2 + b^2 + c^2 + d^2 + 2ab + 2ac - 2ad + 2bc - 2bd - 2cd = (a+b+c-d)^2$$

$$[2-]^2 = 4-$$

$$a^2 + b^2 + c^2 + d^2 + 2ab - 2ac - 2ad - 2bc - 2bd + 2cd = (a+b-c-d)^2$$

$$[3-]^2 = 3-$$

$$a^2 + b^2 + c^2 + d^2 - 2ab - 2ac - 2ad + 2bc + 2bd + 2cd = (a-b-c-d)^2$$

$$(-a-b-c-d)^2 = -(a+b+c+d) \Rightarrow (a+b+c+d)^2$$

$$a^2 + b^2 + c^2 + d^2 + 2ab + 2ac + 2ad - 2bc - 2bd + 2cd$$

ДЗ

$$(2x+y)(7x-y+3z) = 14x^2 + 5xy - y^2 + 6xz + 3yz$$

$$(-5x+2y-z)(3x-7y) = -15x^2 + 41xy - 3xz - 14y^2 + 7yz$$

$$1) 9m^2 + 6mn + n^2 = (3m+n)^2$$

$$2) 16p^2 - 56pq + 49q^2 = (4p-7q)^2$$

$$3) 3a^2 + 2b^2 - 5ab = (-b+a)(3a-2b)$$

$$4) 10a^2 + 9ab - 9b^2 = (2a+3b)(5a-3b)$$

$$5) 35a^2 + 2ab - b^2 = (5a+b)(7a-b)$$

$$6) x^2 + 5x - 6 = (x-1)(x-6)$$

$$7) 2x^2 - 5x + 3 = (2x-3)(x-1)$$