

$$(a + b)^2$$

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

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

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

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

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

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

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$$(x+y)^2 = (x+y)(x+y) = x*x + xy + y*x + y*y = x^2 + 2xy + y^2 \text{ ЧИТЕРСКОЕ}$$

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