

- а)  $ab + cb + ad + cd$ ;      б)  $a^2 - 2ab + b^2 - c^2$ ;  
 в)  $a^4 - 16b^4$ ;            г)  $a^2 + 2ab + ac + b^2 + bc$ ;  
 д)  $9y^2 - 6y + 1 - x^2$ ;    е)  $x^4 + 4x^2 - y^2 + 6y - 5$ .

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

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

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

$$ab + cb + ad + cd = a(b + d) + c(d + b) = (d + b)(a + c)$$

$$a^4 - 16b^4 = (a^2)^2 - (4b^2)^2 = (a^2 - 4b^2)(a^2 + 4b^2) = (a^2 - (2b)^2)(a^2 + 4b^2) = (a - 2b)(a + 2b)(a^2 + 4b^2)$$

$$9y^2 - 6y + 1 - x^2 = (3y)^2 - 2 \cdot 3y \cdot 1 + 1^2 - x^2 = (3y - 1)^2 - x^2 = ((3y - 1) - x)((3y - 1) + x) = (3y - 1 - x)(3y - 1 + x)$$

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

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

$$x^4 + 4x^2 - y^2 + 6y - 5 = (x^2 + 2)^2 - 2^2 - y^2 + 6y - 5 = (x^2 + 2)^2 - 2^2 - y^2 + 6y - 5 =$$

$$(x^2 + 2)^2 - y^2 + 6y - 9 = (x^2 + 2)^2 - (y^2 - 6y + 9) = (x^2 + 2)^2 - (y^2 - 2 \cdot 3 \cdot y + 3^2) = (x^2 + 2)^2 - (y - 3)^2 = ((x^2 + 2) - (y - 3))((x^2 + 2) + (y - 3)) = (x^2 + 2 - y + 3)(x^2 + 2 + y - 3) = (x^2 + 5 - y)(x^2 - 1 + y)$$