DIA | MES | AÑO

Siagro

Factor Común

a) $3(a+2) - 7(a+2) - 8ax(a+2) = -7(a+2) - 8ax(a+2) = -2(a+2)(7+4ax)$

b) $48m^4n^3x + 72m^2n^3x^2 - 36m^2y^3 = 12m^2x(4n^3x + 6n^3x^2 - 3y^3)$

c) $25x^7 - 10x^5 + 15x^3 - 5x^2 = 5x^2(5x^5 - 2x^3 + 3x - 1)$

d) $(x+1)(x+2) + 5y(x-2) = (x-2)(x+1+3y)$

Factorización por agrupación

a) $ax + bx + ay + by = x(a+b) \; y(a+b) = (a+b)(x+y)$

b) $2x^2 - 3xy - 4x + 6y = x(2x-3y) - 2(2x-3y) = (2x-3y)(x-2)$

c) $a^2x - ax^2 - 2a^2y + 2axy + xy^3 - 2x^2y = x(a^2 - ax + x^2) - 2y(a^2 - ax + x^2) = (a^2 - ax + x^2)(x-2y)$

d) $a^2 + ab + ax + bx = a(a+b) \; x(a+b) = (a+b)(a+x)$

Trinomio Cuadrado Perfecto

a) $9 - 6x + x^2 \Rightarrow \sqrt{9} \quad \sqrt{x^2} \quad 2x \cdot 3 = \boxed{6x} = (x-3)^2$

b) $16 + 40x^2 + 25x^4$

$\sqrt{16} \quad \sqrt{25x^4}$

$4 \quad 5x^2$

$2 \cdot 4 \cdot 5x^2 = \boxed{40x^2} = (4+5x^2)^2$

c) $4x^2 - 12xy + 9y^2$

$\sqrt{4}x^2 \quad \sqrt{9}y^2$

$2x \quad 3y$

$2 \cdot 2x \cdot 3y = \boxed{-12xy} = (2x-3y)^2$

d) $\frac{1}{25} + \frac{25x^4}{36} - \frac{x^2}{3}$

$\sqrt{\frac{1}{25}} \quad \sqrt{\frac{25x^4}{36}} \quad \sqrt{\frac{x^2}{3}}$

$\frac{1}{5} \quad \frac{5x^2}{6} \quad \frac{\sqrt{3}x}{3}$

e) $16 - 104x^2 + 169x^4$

$\sqrt{16} \quad \sqrt{169x^4}$

$4 \quad 13x^2$

$2 \cdot 4 \cdot 13x^2 = \boxed{104x^2} = (4 - 13x^2)^2$

Trinomio de la forma $x^2 + bx + c$

a) $x^2 - 13x + 42 = (x-6)(x-7)$

b) $x^2 + 8x + 15 = (x+3)(x+15)$

c) $x^2 - 12x - 64 = (x+4)(x-16)$

d) $x^2 + 4x + 32 = (x+8)(x-4)$

e) $x^2 - 7x - 60 = (x-5)(x-12)$

f) $x^2 - 19x + 48 = (x-3)(x-16)$

Siagro

Trinomio de la forma ax^2+bx+c

a) $7x^2-44x-35 = 7x^2+5x-49x-35 = x(7x+5)-7(7x+5) = (7x+5)(x-7)$

b) $4a^2+15a+9 = 4a^2+12a+3a+9 = 4a(a+3)+3(a+3) = (a+3)(4a+3)$

c) $16m+15m^2-15 = 15m^2+16m-15 = 15m^2+25m-9m-15 = 5m(3m+5)-3(3m+5) = (3m+5)(5m-3)$

d) $m-6+15m^2 = 15m^2+m-6 = 15m^2+10m-9m-6 = 5m(3m+2)-3(3m+2) = (3m+2)(5m-3)$

Diferencia de Cuadrados Perfectos

a) $4a^2-9 = (2a-3)(2a+3)$

b) $\frac{1}{16}-\frac{4x^2}{49}$

c) $100m^2n^4-169y^6 = (10mn^2-13y^3)(10mn^2+13y^3)$

d) $100-x^2y^6 = (10-xy^3)(10+xy^3)$

e) $25-36x^4 = (5-6x^2)(5+6x^2)$

Diferencia de Cubos

a) $a^3-8 = (a-2)(a^2+2a+4)$

b) $8x^3-125 = (2x-5)(4x^2+10x+25)$

c) $-64n^6+1 = (1-2n)(1+2n+4n^2)(1+2n)(1-2n+4n^2)$

d) $216q^3-\frac{1}{216q^3} =$

e) $a^3-b^9 = (a-b^3)(a^2+ab^3+b^6)$

Suma de Cubos

a) $x^3+1 = (x+1)(x^2-x+1)$

b) $27x^3+b^6 = (3x+b^2)(9x^2-3b^2x+b^4)$

c) $27m^6+64n^9 = (3m^2+4n^3)(9m^4-12m^2n^3+16n^6)$

d) $27+343m^{12} = (3+7m^4)(9-21m^4+49m^8$