

IV. Factor by Grouping. ALWAYS look for GCF FIRST!

1. $xy + 3y + 4x + 12 = (x+3)(y+4)$ 2. $3x^2 + 4xy - 3x - 4y = (x-1)(3x+4y)$
3. $2a^2 + 5ab + 2a + 5b = (a+1)(2a+5b)$ 4. $2xy + 3y^2 - 2x - 3y = (y-1)(2x+3y)$
5. $3xy + 2 - 3x - 2y = (3x-2)(y-1)$ 6. $9y - 18 + y^3 - 4y^2 = \text{prime}$
7. $4ax - 4ab - 2bx + 2b^2 = (4a-2b)(x-b)$ 8. $4xy + 15 - 12x - 5y = (4x-3)(y-3)$
9. $3xy - 3ay - 6ax + 6a^2 = 3(x-a)(y-2a)$ 10. $4y^4 + y^2 + 20y^3 + 5y = y(4y^2+1)(y+5)$

V. Using Sum and Difference of two cubes. ALWAYS look for GCF FIRST!

1. $27 - y^3 =$ 2. $3ax^3 - 3ay^3 =$
3. $x^3 + 64y^6 =$ 4. $2m^3 - 432 =$
5. $x^3 - 1 =$ 6. $125x^3 + 8a^3 =$
7. $r^3 + 8b^3 =$ 8. $54a^3 - 128b^3 =$
9. $bx^3 + by^3 =$ 10. $x^3 + 64y^6 =$