MTH-4106 Factoring and Algebraic Fractions: **Worksheet #2**

Factor the following polynomials by **grouping**:

1. $3a^2c + 5c + 6a^2b + 10b$

2. $mx - my + nx - ny$

3. $b^2 + 4b + bc + 4c$

4. $2x^4 - x^3 + 4x - 2$

5. $bcy + c^2z + cd + b^2y + bd + bcz$

6. $4x^2 + 6x + 10x + 15$

7. $2ac + 3c - 4ab - 6b$

8. $np + 12m^2 - 4mn - 3mp$

9. $9ax^2 - by - 3bx + 3axy$

10. $f^2x^2 + g^2x^2 - ag^2 - af^2$

11. $m^2x + nx + ny + hy + hx + m^2y$

12. $6a^2nx - 3bcmz + 2acnz + 4abny - 6b^2my - 9abmx$

13. $x^4 - x^3 + x - 1$

14. $2a^2x + 2py - a^2y - 4px + 5a^2z - 10pz$

15. $-4y^4 + 1 - 2y^3 + 2y$

16. $ay^2 - a + 3by^2 - 3b + 6ay^4 + 18by^4$

17. $5m^3p - 5p - w + m^3w + 8m^4w + 40m^4p$

18. $21aq^5 - p - 7a + 7at^4 + pt^4 + 3pq^5$

19. $-4a^5d + c + a^5c - 4d - 6b^7c + 24b^7d$

20. $3d^2x^2 + 5a - d^2 - 2d^2y^3 + 10ay^3 - 15ax^2$