

**Lesson #10 A: Understanding Basic and Advanced Factoring of Special Product Polynomials
(Reference: Lesson #61 in book)****Problem**

1. Please completely factor each of the following polynomials using the special product rules and techniques we have cover in class.

1. $x^2 + 14x + 49$
2. $x^2 + 10x + 25$
3. $16x^2 + 56x + 49$
4. $121x^2 + 110x + 100$
5. $64x^2 - 48x + 9$
6. $12x^3 + 60x^2 + 75x$
7. $27x^5 + 72x^4 + 48x^3$
8. $x^2 - 49$
9. $9x^2 - 64$
10. $25x^2 - 64y^2$
11. $50x^2 - 32$
12. $27x^4 - 75x^2$
13. $81x^4 - 16$
14. $x^3 - 64$
15. $8x^3 - 27$
16. $27x^3 + 125y^3$
17. $2x^4 - 54x$

18. $128x^5y + 54x^2y^4$

19. Please fully factor each of the following polynomials by grouping.

19. $5x^2 + 10xy + 3x + 6y$

20. $3y^2 + 6yz + 4y + 8z$

21. $3y^2 - 4y^3 + 3 - 4y$

22. $5x^2y - 3xy - 50x + 30$

23. $3x^2y - 4xy + 20 - 15x$

24. $54xz^3 + 6xz^2 - 18z^3 - 2z^2$

25. $99x^3y - 33x^3 + 33x^2y - 11x^2$