Unit V – Second Degree Relations and Higher - Polynomials
Part C – Solving Equations and Inequalities by Factoring
Lesson 8 – General Factoring Strategy

Factor each of the following polynomials completely.

1. $25x^2y^2 - 36$

2. $x^2 - 5xy - 36y^2$

3. $16c^2 - 40c + 25$

4. $x^4 - 9$

5. $x^4 - 26x^2 + 25$

6. $12x^4 + x^2 - 20$

7. $x^4 - 8x + x^3y - 8y$

8. $2n^3 - 24n^2 + 72n$

9. $27y^2 - 12$

10. $125y^3 - 27$

11. $15xy + 6y - 20x - 8$

12. $3x^{4a} + 2x^{2a}y^b - y^{2b}$

13. $9c^3 - 30c^2 + 25c$

14. $m^3 - 8 + m^2 - 4$

15. $y^4 - 29y^2 + 100$

16. $5x^2 + 10x - 40$

17. $b^3 - c^3 - 4b + 4c$

18. $n^3 - 64$

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Factor each of the following polynomials completely.

1. $(5xy+6)(5xy-6)$

2. $(x-9y)(x+4y)$

3. $(4c-5)(4c-5)$

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

5. $(x-5)(x+5)(x-1)(x+1)$

6. $(3x^2+4)(4x^2-5)$

7. $(x-2)(x^2+2x+4)(x+y)$

8. $2n(n-6)(n-6)$

9. $3(3y+2)(3y-2)$

10. $(5y-3)(25y^2+15y+9)$

11. $(5x+2)(3y-4)$

12. $(3x^{2a}-y^b)(x^{2a}+y^b)$

13. $c(3c-5)(3c-5)$

14. $(m-2)\left[(m^2+2m+4)+(m+2)\right]$

15. $(y+2)(y-2)(y-5)(y+5)$

16. $5(x+4)(x-2)$

17. $(b-c)\left[(b^2+bc+c^2)-4\right]$

18. $(n-4)(n^2+4n+16)$