

Name:

Date:

Topic:

Class:

Main Ideas/Questions	Notes/Examples	
FACTORING POLYNOMIALS with FOUR TERMS	It is possible to factor a polynomial with four terms by using a method called grouping. Follow the steps below to factor the given polynomial.	
	Steps	Example
	Step 1: Group the first two terms together and the last two terms together.	$x^3 + 7x^2 + 2x + 14$
	Step 2: Factor out the GCF from each binomial.	
	Step 3: Factor the common binomial out.	
	Step 4: Distribute to check your answer.	
MORE EXAMPLES	Directions: Factor each polynomial.	
	1. $x^3 + 4x^2 + 8x + 32$	2. $a^3 + 2a^2 + 9a + 18$
	3. $w^3 + 5w^2 - 8w - 40$	4. $k^3 + 2k^2 - 5k - 10$
	5. $p^5 - 6p^3 - 2p^2 + 12$	6. $v^3 - v^2 - 3v + 3$

	7. $3x^3 - 21x^2 + 4x - 28$	8. $2y^4 - 6y^3 - 7y + 21$
	9. $16a^3 + 8a^2 - 6a - 3$	10. $10m^3 - 25m^2 + 4m - 10$
	11. $8x^2 + 12x + 2xy + 3y$	12. $c^2d + 3c^2 - 7d^2 - 21d$
	13. $a^3 + a^2b + ab + b^2$	14. $4r^2s - 8rs - 3r + 6$
CHALLENGE! Rearranging Terms	Directions: Factor each polynomial by rearranging terms first, then use grouping.	
	15. $2xy + 5x - x^2 - 10y$	16. $uv - u - u^2 + v$
	17. $12m^2 + 28mn + 3m + 7n$	18. $10ab + 21 - 15a - 14b$