Algebra 1R – Mr. Bo
Unit 12 - Day 2 Notes

Name _____
Date _____

MULTIPLYING POLYNOMIALS

To Multiply a Monomial by a Monomial:

Examples: Add exponents of same letters

1. $5x^2 \cdot 8x^3$

$= 40x^5$

2. $-3x^5 \cdot -6x^7$

$= 18x^{12}$

3. $2x^4 \cdot -4x \cdot 7x^8$

$= -56x^{13}$

To Multiply a Monomial by a Polynomial:

Distribute: $a(b+c) = ab + ac$

Examples:

4. $-4y^2(5y^4 - 3y^2 + 2)$

$= -20y^6 + 12y^4 - 8y^2$

5. $4x(8x^3 - 2x + 4)$

$= 32x^4 - 8x^2 + 16x$

6. $-7h(3h^2 - 8h - 1)$

$= -21h^3 + 56h^2 + 7h$

7. $3g^7(g^4 + 6g^2 - 5)$

$= 3g^{11} + 18g^9 - 15g^7$

To Multiply a Binomial by a Binomial:

Examples:

8. $(x+2)(x+3)$

$= x^2 + 3x + 2x + 6$

$= x^2 + 5x + 6$

9. $(x-4)(x+8)$

$= x^2 + 8x - 4x - 32$

$= x^2 + 4x - 32$

10. (2x+5)(x+3)

$= 2x^2 + 6x + 5x + 15$

$= 2x^2 + 11x + 15$

11. (3x-5)(2x+7)

$= 6x^2 + 21x - 10x - 35$

$= 6x^2 + 11x - 35$

12. (3x-4)(2x-5)

$= 6x^2 - 15x - 8x + 20$

$= 6x^2 - 23x + 20$

13. (6x-7)(2x+3)

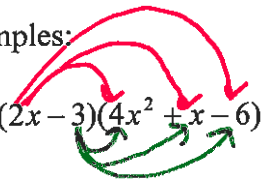
$= 12x^2 + 18x - 14x - 21$

$= 12x^2 + 4x - 21$

To Multiply a Binomial by a Trinomial:

Examples:

14. $(2x-3)(4x^2+x-6)$



$= 8x^3 + 2x^2 - 12x - 12x^2 - 3x + 18$

$= 8x^3 - 10x^2 - 15x + 18$

15. $(6x-8)(2x^2+x+7)$

$= 12x^3 + 6x^2 + 42x - 16x^2 - 8x - 56$

$= 12x^3 - 10x^2 + 34x - 56$