Algebra 2 Unit 2 Quiz REVIEW– Sections 2.1 – 2.3– Add, Subtract, and Multiply Polynomials. Name Polynomials. Factor Using GCF and DOS

Name: Key Date: _____ Block: _____

Find the sum, difference, or product.

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1. $(x^2-3x+5)+(-2x^2+11x+1)$

$x^2-3x+5-2x^2+11x+1$

$-x^2+8x+6$

$-x^2+8x+6$ OR x^2-8x-6

Standard Form:
Leading Coefficient: −1 or 1
Degree: 2 Terms: 3
Name: Quadratic Trinomial

2. $(8y^3-7y^2+y)-(8y^3-5y^2+7)$

$8y^3-7y^2+y-8y^3+5y^2-7$

$-2y^2+y-7$ or $2y^2-y+7$

Standard Form:
Leading Coefficient: −2 or 2
Degree: 2 Terms: 3
Name: Quadratic Trinomial

3. $-2x^2(3x^5-x^3)$

$-6x^7+2x^5$ or $6x^7-2x^5$

Standard Form:
Leading Coefficient: −6 or 6
Degree: 7 Terms: 2
Name: 7th Degree Binomial

4. $(m+3)(-2m^2+5m-1)$

$-2m^3+5m^2-m$

$+\quad -6m^2+15m-3$

$-2m^3-m^2+14m-3$ or $2m^3+m^2-14m+3$

Standard Form:
Leading Coefficient: −2 or 2
Degree: 3 Terms: 4
Name: Cubic Polynomial

5. $(2r+11)(r-6)$

$2r^2-12r+11r-66$

$2r^2-r-66$

Standard Form:
Leading Coefficient: 2
Degree: 2 Terms: 3
Name: Quadratic Trinomial

6. $(8p-2)(p+1)$

$8p^2+8p-2p-2$

$8p^2-6p-2$

Standard Form:
Leading Coefficient: 8
Degree: 2 Terms: 3
Name: Quadratic Trinomial

7. $(5w+9)^2$

$(5w+9)(5w+9)$

$25w^2+45w+45w+81$

$25w^2+90w+81$

Standard Form: $25w^2+90w+81$
Leading Coefficient: 25
Degree: 2 Terms: 3
Name: Quadratic Trinomial

8. $(2s-7)^2$

$(2s-7)(2s-7)$

$4s^2-14s-14s+49$

$4s^2-28s+49$

Standard Form: $4s^2-28s+49$
Leading Coefficient: 4
Degree: 2 Terms: 3
Name: Quadratic Trinomial

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

$x^2-4x+4x-16$

x^2-16

Standard Form: x^2-16
Leading Coefficient: 1
Degree: 2 Terms: 2
Name: Quadratic Binomial

10. $(2x-4)^3$

$(2x-4)(2x-4)(2x-4)$

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

$(4x^2-16x+16)(2x-4)$

$8x^3-16x^2$

$-32x^2+64x$

$+32x-64$

Standard Form: $8x^3-48x^2+96x-64$
Leading Coefficient: 8
Degree: 3 Terms: 4
Name: Cubic Polynomial

Factor using GCF or DOS or both.

1. m^6-16

$m^3 \cdot m^3 \quad -4 \cdot 4$

$(m^3-4)(m^3+4)$

2. $\frac{2a^2}{2a}+\frac{8a}{2a}$

$2a(a+4)$

3. $49x^2-81y^8$

$7x \cdot 7x \quad -9y^4 \cdot 9y^4$

$(7x-9y^4)(7y+9y^4)$

4. $25x^2-16$

$5x \cdot 5x \quad -4 \cdot 4$

$(5x-4)(5x+4)$

5. $16 - x^2$

$4 \cdot 4 \quad -x \cdot x$

$(4-x)(4+x)$

6. $10c^3d^2 - 15cd^3$

$5cd^2 \quad 5cd^2$

$5cd^2(2c^2 - 3d)$

7. $3y^2 + 9y - 15$

$3 \quad 3 \quad 3$

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

8. $6x^2yz + 2xy^2z - 4xyz$

$2xyz \quad 2xyz \quad 2xyz$

$2xyz(3x + y - 2)$

9. $a^4b^2 - 1$

$a^2b \cdot a^2b \quad -1 \cdot 1$

$(a^2b-1)(a^2b+1)$

10. $96r^2 - 54$

$2 \quad 2$

$2(48r^2 - 27)$

$3 \quad 3$

$3 \cdot 2(16r^2 - 9) = 6(4r-3)(4r+3)$

$4r \cdot 4r \quad -3 \cdot 3$

11. $27x^2 - 12$

$3 \quad 3$

$3(9x^2 - 4)$

$3x \cdot 3x \quad -2 \cdot 2$

$3(3x-2)(3x+2)$

12. $12a^4b^3c^2 - 4a^3bc^2 + 8a^2c - 16ab$

$4a \quad 4a \quad 4a \quad 4a$

$4a(3a^3b^3c^2 - a^2bc^2 + 2ac - 4b)$

13. $50 - 98x^2$

$2 \quad 2$

$2(25 - 49x^2)$

$5 \cdot 5 \quad -7x \cdot 7x$

$2(5-7x)(5+7x)$

14. $36 - x^2$

$6 \cdot 6 \quad -x \cdot x$

$(6-x)(6+x)$