Chapter 10.1-10.3 Quiz Review

Name: KEY

***Section 10.1**: Adding and Subtracting Polynomials*

Find the sum or difference.

1. $(10x^2 - 5x + 7) + (12x^2 + 4x - 1)$

$10x^2 + 12x^2 - 5x + 4x + 7 - 1$

$22x^2 - x + 6$

2. $(2x^2 - x + 15) + (-x + 9 - 3x^2)$

$2x^2 - 3x^2 - x - x + 15 + 9$

$-x^2 - 2x + 24$

3. $(7x^3 - 8x^2 + 2x - 4) + (-4x^2 + x + 7)$

$7x^3 - 8x^2 - 4x^2 + 2x + x - 4 + 7$

$7x^3 - 12x^2 + 3x + 3$

4. $(-2x^3 + x^2 - x + 9) + (+2x^2 + x + 6)$

$-2x^3 + x^2 + 2x^2 - x - x + 9 + 6$

$-2x^3 + 3x^2 - 2x + 15$

5. $(8x^3 + 7x^2 + 2x - 7) + (-7x^2 + x + 6)$

$8x^3 + 7x^2 - 7x^2 + 2x + x - 7 + 6$

$8x^3 + 3x - 1$

6. $(2x^3 - x + 15) + (3x^3 - x - 9)$

$2x^3 + 3x^3 - x - x + 15 - 9$

$5x^3 - 2x + 6$

***Section 10.2:** Multiplying Polynomials*

Find the product.

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

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

$-24x^4 + 40x^3 - 24x^2$

8. $-3x^3(7x^2 - 6x + 5)$

$-3x^3(7x^2) - 3x^3(-6x) - 3x^3(5)$

$-21x^5 + 18x^4 - 15x^3$

9. $(x+4)(x-7)$

$x(x)+x(-7)+4(x)+4(-7)$

$x^2-7x+4x-28$

$\boxed{x^2-3x-28}$

10. $(4x+3)(2x-5)$

$4x(2x)+4x(-5)+3(2x)+3(-5)$

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

$\boxed{8x^2-14x-15}$

11. $(-x+3)(4x+9)$

$-x(4x)-x(9)+3(4x)+3(9)$

$-4x^2-9x+12x+27$

$\boxed{-4x^2+3x+27}$

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

$5x(3x)+5x(-2)+4(3x)+4(-2)$

$15x^2-10x+12x-8$

$\boxed{15x^2+2x-8}$

Section 10.3: *Multiplying Special Polynomials*

Find the product.

13. $(x-8)(x+8)$

$x(x)+x(8)-8(x)-8(8)$

$x^2+8x-8x-64$

$\boxed{x^2-64}$

14. $(3x-6)(3x+6)$

$3x(3x)+3x(6)-6(3x)-6(6)$

$9x^2+18x-18x-36$

$\boxed{9x^2-36}$

15. $(y+7)^2$

$(y+7)(y+7)$

$y(y)+y(7)+7(y)+7(7)$

$y^2+7y+7y+49$

$\boxed{y^2+14y+49}$

16. $(2y-9)^2$

$(2y-9)(2y-9)$

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

$4y^2-18y-18y+81$

$\boxed{4y^2-36y+81}$

17. $(2x+4)^2$

$(2x+4)(2x+4)$

$2x(2x)+2x(4)+4(2x)+4(4)$

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

$\boxed{4x^2+16x+16}$

18. $(x-5)^2$

$(x-5)(x-5)$

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

$x^2-5x-5x+25$

$\boxed{x^2-10x+25}$