**Assignment: Add, Subtract & Multiply Polynomials**

Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Date \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Period \_\_\_\_\_\_\_\_

**Add or subtract.**

1. $\left(15x^{2}-3x+11\right)+(2x^{3}-x^{2}+6x+1)$ 2. $\left(3x^{2}-5x\right)-(-4+x^{2}+x)$

3. $\left(12x-1+2x^{2}\right)+(x^{2}+4)$ 4. $\left(x^{2}-3x+7\right)-(6x^{2}+4x+12)$

5. $\left(3x-5y\right)+\left(4x+2z\right)-(3y-5z)$ 6. $\left(3x^{2}y+2xy^{2}\right)-(6y+5xy^{2}-8x^{2}y)$

7. $\left(x^{2}-6xy-2y^{2}\right)+\left(7x^{2}-xy+8y^{2}\right)-(-x^{2}+5xy-y^{2})$

**Multiply. Show Work!**

9. $5x^{3}\left(4y+7x\right)$ 10. $3x^{2}\left(2x^{2}+9x-6\right)$

11. $-6x^{3}\left(15y^{4}-7xy^{3}+2\right)$ 12. $\frac{1}{3}x^{2}y^{3}\left(6x^{2}+9xy-12y^{2}\right)$

13. $\left(x^{4}+3y^{3}\right)\left(2x^{4}-y^{3}\right)$ 14. $\left(3a+4b\right)\left(3a-4b\right)$

15. $\left(x+7\right)\left(x-5\right)$ 16. $\left(7a^{3}+2b\right)^{2}$

17. $\left(7x-3y\right)^{2}$ 18. $(4x-9)(2x-1)$

19. $\left(3x-2\right)\left(2x^{2}+3x-1\right)$ 20. $(x^{2}+9x+7)(3x^{2}+4x+5)$