Name: _____ Period:_____ **SCORE**: ____ / **28**

Complete the following problems on a separate sheet of paper. ***Don't forget to <u>check your answers</u> and write your score of how many were correct. (1 point for every correct answer)***

Section 4-1

- Know how to add and subtract polynomials by combining like terms
- Make sure you get the order correct: "subtract *a* ***from*** *b*" means $b - a$, **<u>NOT</u>** $a - b$.

Practice: p. 170 written: 14-20 even

Section 4-2

- Know the rules for exponents:

$$a^m \cdot a^n = a^{m+n} \qquad (ab)^m = a^m \cdot b^m \qquad (a^m)^n = a^{m \cdot n}$$

- Make sure you can apply the rules when the exponents are variables, not just numbers.

Practice: p. 173 written: 4-28 EOE (every other even)

Section 4-3

- Know how to multiply two polynomials by distributing every term of the first polynomial through the second polynomial.

Practice: p. 176: 32-48 EOE

Section 4-4

- Know how to find the GCF and LCM of a set of monomials.

Practice: p. 181 written: 22, 24

Section 4-5

- Know all of the special factoring patterns. These will save you time!!!
  - Perfect square trinomials: $a^2 + 2ab + b^2 = (a+b)^2$ and $a^2 - 2ab + b^2 = (a-b)^2$
  - Difference of squares: $a^2 - b^2 = (a+b)(a-b)$
  - Sum of cubes: $a^3 + b^3 = (a+b)(a^2 - ab + b^2)$ ***Remember, the trinomial is PRIME!***
  - Difference of cubes: $a^3 - b^3 = (a-b)(a^2 + ab + b^2)$
- Know how to factor by grouping. Look for pairs of terms or groups of three terms that can be factored to create common factors. Then pull out the common factor.

Practice: p. 186: 8-36 EOE

The answers are on the back!!!!

You must show that you <u>checked and corrected</u> each problem using a <u>colored pen</u>.

ANSWERS

Section 4-1

14. **a.** $-2w^2$ **b.** $2w^3 + 2w - 2$ 16. **a.** $4a^2 + ab$ **b.** $4a^2 + 5ab - 2b^2$

18. $15y^2 + 7y - 3$ 20. -25

Section 4-2

4. t^{12} 8. $-6r^4s^5$ 12. $x^8y^4z^{12}$ 16. $72x^{12}y^{11}$

20. $p^4q^3 - 4p^2q^4$ 24. y^{3p} 28. $x^{k+2} - x^{k+1} + x^k$

Section 4-3

32. $y^4 - y^3 - y + 1$ 36. $x^{4n} - 2x^{2n}y^n + y^{2n}$ 40. $a^3 + 3a^2b + 3ab^2 + b^3$

44. $a^4 - b^4$ 48. $x^4 + 64$

Section 4-4

22. GCF = $14abc$, LCM = $490a^2b^2c^2$ 24. GCF = $11xyz$, LCM = $132x^2y^2z^2$

Section 4-5

8. $(3s - 4)^2$ 12. $(4x + 5y)^2$ 16. $pq(p - 1)(p + 1)$ 20. $3x^2y(y - 3)(y^2 + 3y + 9)$

24. $(u + 2)(v - 1)$ 28. $(2a - 1)(2b - 1)$ 32. $(x - y - 2)(x + y + 2)$

36. $2x^2(5 - x)(25 + 5x + x^2)$