Algebra I Chapter 8 Review Name:_____

Date:_____ Hour:_____

You must show all of your work if you want full credit!! Please place your answers on the line provided.

I. Multiple-Choice – *You MUST show work for these problems in the work area box if you want ANY credit!!!*

Find the degree of the polynomial.

_____1. $25a^3b^7$

work area:

_____2. $A^5b^2 + 13a^3b^3 - 6a^5b^7$

work area:

Arrange the terms of the polynomial so that the powers of x are in descending order.

_____3. $4xy^4 - 3xy^5 - 6y^3 + 2x^2$

work area:

Solve.

_____4. $(2g^4h^2)^3$

work area:

_____5. $(3a - 2a^2) + (4 + 6a)$

work area:

Simplify. Assume that no denominator is equal to zero. (Remember, you cannot have any negative exponents in your answers.) (You may want to re-group numbers with numbers, same letters with letters, etc, so it's easier to apply your exponent rules)

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

7. $(5a^2b^6)(23ab^5)$ 7._____

8. $(xy^4)^2$ 8._____

9. $3ab^7 + 2(ab^2)^4 + 4(a^2b^4)^2$ 9._____

10. $\dfrac{-25m^6}{5m^{10}}$ 10._____

11. $\dfrac{16b^{-5}d}{32b^{3}d^{-6}}$ 11._____

12. $\dfrac{(4x^{2}y^{6})^{3}}{(-2x^{3}y^{9})^{2}}$ 12._____

13. Find the degree of the polynomial 13._____
$2x^{2}y - 4x^{5} + 6xy^{4}$

14. Arrange the terms of the polynomial so that the powers of x are in descending order. 14._____
$3x^{3}y - xy^{4} - 3y^{2} + x^{5}$

Find each sum or difference.

15. $(3m^2 + 5m - 2) - (4m^2 + 7m - 4)$ 15._____

16. $(3y^2 + 5y - 6) + (2y^2 - 8y - 2)$ 16._____

17. $(3a^3 - 4b) - (a^3 - b)$ 17._____

Find each product.

18. $3x^2y(4x^3y - 2xy^3 + 6xy^4)$ 18._____

19. $(4r^3 + 4s^3)(2r^3 - 4s^4)$ 19._____

20. $(2n + 5)(2n^2 - 6n + 4)$ 20._____

21. $(3y + 7)^2$ *(rewrite this before you solve)* 21._____

22. $(x + 5r)(x - 5r)$ 22._____

Solve each equation.

23. $5x + 8 = 3 + 2(3x - 4)$ 23._____

24. $-5(2n - 3) = 7(3 - n)$ 24._____

26. Alyssa wants to increase her book collection by a power of two this year and then increase it again by a power of two next year. If she has 2 books now, how many will she have after the second year?