ALGEBRA II NAME _____

SECTION 3-1 & 3-2 REVIEW WK

1) Fill in the chart with the proper operation to perform for both coefficients and exponents.

	Coefficients	**Exponents**
multiply		
raise to a power		
divide		
add or subtract		

2) In your own words, explain what to do with anything raised to a negative exponent.

Simplify the following by multiplying, dividing or raising to a power. Use the chart from above and be sure to watch out for negative exponents.

3) _____ $(-11ab^4)(-5a^2b^2)$

4) _____ $\dfrac{-14wz^5}{16w^3z^3}$

5) _____ $(-5m^7)^3$

6) _____ $\dfrac{10b^{-3}}{(5b)^{-2}}$

7) _____ $3(2n^5)^3$

8) _____ $\left(\dfrac{1}{3p^2}\right)^{-2}$

9) _____ $(5v^3)^2 \bullet (-2v)^5$

10) _____ $\left(\dfrac{2y^9}{6y^7}\right)^3$

Determine if the following are polynomials (circle either yes or no). ***If yes***, then state the degree.

11) $3m^3 - m + 7 - 4m^7$ yes no Degree = _____

12) $12ab^5 + a^5b^3 - 11a^5bc$ yes no Degree = _____

13) $4y^{-3} + 4y^3$ yes no Degree = _____

14) $n^2 + n\sqrt{7} - 1 + n^3$ yes no Degree = _____

15) $\frac{2}{3}xy^5 + 9x^3y^4 + \frac{5}{4}x^6$ yes no Degree = _____

16) $10 - 2\sqrt[3]{d+5}$ yes no Degree = _____

Add or subtract the polynomials.

17) $(2b + 2c - d) + (8c - 3b - 7d)$

18) $(5xy - 9) - (9y^2 - 5xy + 3y + 11)$

Multiply the polynomials using either the distributive property, FOIL or a "box".

19) $4a^3(a^3 - 5a + b)$

20) $y^{-5}(2y^7 + y^6 + 5y^5)$

21) $(x - 7)(x - 12)$

22) $(2 - 7y)^2$

23) $(2b - 3)(b^2 + 4b - 2)$

Answer key: 3) $55a^3b^6$ 4) $-\frac{7z^2}{8w^2}$ 5) $-125m^{21}$ 6) $\frac{250}{b}$

7) $24n^{15}$ 8) $\frac{9x^4}{y^6}$ 9) $-800v^{11}$ 10) $\frac{y^6}{27}$ 11) yes, 7

12) yes, 8 13) no 14) yes, 3 15) yes, 7 16) no

17) $-b + 10c - 8d$ 18) $10xy - 9y^2 - 3y - 20$ 19) $4a^6 - 20a^4 + 4a^3b$

20) $2y^2 + y + 5$ 21) $x^2 - 19x + 84$ 22) $49y^2 - 28y + 4$

23) $2b^3 + 5b^2 - 16b + 6$