Name:	Date:
Topic:	Class:

Main Ideas/Questions	Notes/Examples

MONOMIALS

- A **monomial** is a number, variable, or a product of numbers and variables.
- Examples: _____
- Use the **EXPONENT RULES** to simplify monomial expressions:

NAME	RULE	EXAMPLE
Product Rule		
Power Rule		
Quotient Rule		
Negative Exponent Rule		
Zero Exponent Rule		

When **ADDING OR SUBTRACTING** monomials, **COMBINE LIKE TERMS**!

EXAMPLES

1. $5x^2 \cdot -7x^6$

2. $(-2a^3b)^2 \cdot 8ab^9$

3. $\frac{54m^6n^4}{3m^2n} - 10m^4n^3$

4. $2k^4 \cdot 10k^{-7}$

5. $\left(\frac{2}{3}r^2s^7\right)^2 \cdot \left(\frac{1}{6}r^3s\right)$

6. $\left(\frac{14w^{12}}{7w^3}\right)^{-1}$

7. $\frac{15x^{10}y^4}{24x^{12}y^3}$

8. $\left(\frac{c}{c^2}\right)^4 \cdot (-3c)^4$

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9. Give an example of two monomials with a quotient of $\frac{-3n^2}{m}$.

POLYNOMIALS

- A **polynomial** is the sum or difference of many monomials.
- The **highest exponent** of a polynomial is called the _____.
- **Standard Form:** _____

_____

Write the polynomials below in standard form:

10. $-k^5 - 1 + 8k - 3k^3 + \frac{1}{4}k^2$ _____

11. $18a^2b^2 + 7ab - b^2 + 4a^3$ _____

12. $5xy^2 - x^2 + 9x^3y - y^4 + 2$ _____

CLASSIFYING POLYNOMIALS

Degree	
0	
1	
2	
3	
4	
5	

Number of Terms	
1	
2	
3	
4+	

Polynomials are **classifed by degree** (highest exponent) and **number of terms**. Use the charts to the left to classify each polynomial below.

13. $-3x + 1$ _____

14. $9x^5 - x^4 + 2x$ _____

15. 24 _____

16. $\frac{1}{2}x^3 - 2x^2 + 4x + 15$ _____

17. $-x^2 - 18x + 31$ _____

18. $-\frac{3}{2}x^4$ _____

19. Give an example of a cubic binomial. _____

20. Give an example of a linear monomial. _____

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