

Name _____

Date _____ Pd. _____

Notes: Polynomials

Degree of a Polynomial A _____ is a monomial or a sum of monomials. A _____ is the sum of two monomials, and a _____ is the sum of three monomials. Polynomials with more than three terms have no special name. The _____ of a monomial is the sum of the exponents of all its variables. The _____ **of the polynomial** is the same as the degree of the monomial term with the highest degree.

Expression	Polynomial?	Monomial, Binomial, or Trinomial?	Degree of the Polynomial
$3x - 7xyz$			
-25			
$7n^3 + 3n^{-4}$			
$9x^3 + 4x + x + 4 + 2x$			

Example 1 Arrange the terms of each polynomial so that the powers of x are in ascending order.

a. $x^4 - x^2 + 5x^3$

b. $8x^3y - y^2 + 6x^2y + xy^2$

Example 2 Arrange the terms of each polynomial so that the powers of x are in descending order.

a. $x^4 + 4x^5 - x^2$

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

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Exit Card: Polynomials

Which polynomial below is in standard form?

F. $9x^3 + 11x^4 + 7x^5 + 6x^6$

G. $10x^3 - 9x^2 + 15x - 20$

H. $17x^4 + 12x^6 - 9x^8 + 6x^{10}$

J. $x^4 - x^2 + x^3 + x$

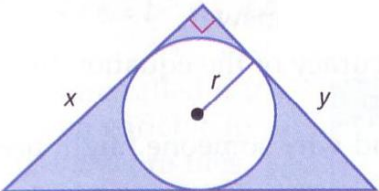
What is the degree of the monomial $12x^3y^4z^5$?

	/	/	/	
•	•	•	•	•
0	0	0	0	0
1	1	1	1	1
2	2	2	2	2
3	3	3	3	3
4	4	4	4	4
5	5	5	5	5
6	6	6	6	6
7	7	7	7	7
8	8	8	8	8
9	9	9	9	9

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Homework: Pages 434 – 436 (15, 16, 23, 29 – 32, 47, 48, 54, 59)

<p>15. Is 4 a polynomial? What type?</p>	<p>16. Is $\frac{6m^2}{p} + p^3$ a polynomial? What type?</p>
<p>23. Write a polynomial to represent the area of the shaded region.</p> 	
<p>29. What is the degree of $c^4 + 7c^2$?</p>	<p>30. What is the degree of $6n^3 - n^2p^2$?</p>
<p>31. What is the degree of $15 - 8ag$?</p>	<p>32. What is the degree of $3a^2b^3c^4 - 18a^5c$?</p>
<p>47. Arrange so the powers of x are in descending order: $4a^3x^2 - 5a + 2a^2x^3$</p>	
<p>48. Arrange so the powers of x are in descending order: $b^2 + x^2 - 2xb$</p>	
<p>54. The number of quadruplet births Q in the United States from 1989 to 1998 can be modeled by $Q = -0.5t^3 + 11.7t^2 - 21.5t + 218.6$, where t represents the number of years since 1989. For what values of t does this model no longer give realistic data? Explain your reasoning.</p>	
<p>59. If $x = -1$, then $3x^3 + 2x^2 + x + 1 = 1$</p> <p>A -5 B -1 C 1 D 2</p>	