math Antics Worksheets

Name: _____

Date: _____

Polynomials and Terms

AB-WAP 1

Instructions: How many terms does each polynomial have? Write your answer in the blank provided.

1. 3 — $4x^3 + 4x^2 + x$
2. 4 — $a^3 - 5a^2 + a + 7$
3. 5 — $7x^6 - 10x^3 + 9x^2 + 5x - 8$
4. 8 — $x^8 + x^7 + x^6 + x^5 + x^4 + x^3 + x^2 + x$
5. 9 — $x^8 + x^7 + x^6 + x^5 + x^4 + x^3 + x^2 + x + 1$
6. 1 — $12b^2$
7. 6 — $xy - 5 + 9x^5 + 3x - 6x^2y - 25x^4$
8. 5 — $7x^2 - 10 + 5x - 8x^3 - x^4$
9. 7 — $5a^3 - b^2 + 5c - 8a + 12 + b + c$
10. 2 — $x - 1$

Instructions: Based on the number of terms, classify each of the following as a monomial, binomial, trinomial or polynomial.

1. binomial — $2x - 5y$
2. trinomial — $6x^2 - x + 4$
3. monomial — $7x^6$
4. polynomial — $4x^4 + 3x^3 + 2x^2 + x$
5. binomial — $a^2 + b^2$

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Terms: Degree and Coefficient

AB-WAP 2

Instructions: For each polynomial below, circle the term of the specified degree and then write the coefficient of that term in the space provided.

1. 3rd degree $5x^4 - 8x^3 + x^2 + 10x - 15$ Coefficient: -8
2. 2nd degree $a^3 + a^2 + 3$ Coefficient: 1
3. 4th degree $21x^8 + 16x^6 + 11x^4 + 6x^2 + 1$ Coefficient: 11
4. 1st degree $-6x^4 + 4x^3 + 2x^2 - x + 1$ Coefficient: -1
5. 6th degree $-x^4 + 7x^6 + 14x^3 - 9x + 10$ Coefficient: 7
6. 5th degree $-a + 7a^2 + 14 - 5a^5 + 10a^2$ Coefficient: -5
7. 2nd degree $b^4 + 2b^3 + 3b^2 + 4b + 5$ Coefficient: 3
8. 1st degree $-3x^7 + 9x^5 - 4x^3 - 6x + 1$ Coefficient: -6
9. 4th degree $-x^2y^2 + xy^2 + yx - x + y - 2$ Coefficient: -1
10. 3rd degree $5xy^4 - 5xy^3 + 5xy^2 - 5xy$ Coefficient: 5
11. 3rd degree $a^3b^3c^3 + a^2b^2c^2 + abc$ Coefficient: 1
12. 2nd degree $10xy + 4x^2y + 6xy^2 + 3x^2y^2$ Coefficient: 10

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Re-arranging Polynomials

AB-WAP 3

Instructions: Re-arrange each polynomial so that its terms are in order from highest degree to lowest degree. (Be sure to move the negative sign along with any negative terms that you move.)

1. $5x - 9 - x^3 + 10x^2$ → $-x^3 + 10x^2 + 5x - 9$
2. $-x + 20 + 3x^2$ → $3x^2 - x + 20$
3. $12a^2 - 8a^4 - 4a^6$ → $-4a^6 - 8a^4 + 12a^2$
4. $-7 + 4x + 2x^5 + x^3$ → $2x^5 + x^3 + 4x - 7$
5. $4x - 8x^2 + 16$ → $-8x^2 + 4x + 16$
6. $-a + a^2 - a^3 - a^5 + a^4$ → $-a^5 + a^4 - a^3 + a^2 - a$
7. $10 + 2b^3 + 3b$ → $2b^3 + 3b + 10$
8. $-3x^5 + 15 - 9x^3 - 4x$ → $-3x^5 - 9x^3 - 4x + 15$
9. $-5xy + xy^2 + x^2y^2 + 2y$ → $x^2y^2 + xy^2 - 5xy + 2y$
10. $ab - abc + a^2bc - a$ → $a^2bc - abc + ab - a$