

Name:	Date:
Topic:	Class:

Main Ideas/Questions	Notes/Examples								
POLYNOMIALS	<ul style="list-style-type: none"> Definition: An algebraic expression that consists of <u>two</u> or <u>more algebraic terms</u>. Example: $5x + 3y - 7$; $2x^2 + 6x + 9$ Standard Form: Terms should be written so that the <u>exponents</u> go in <u>decreasing</u> order from <u>left to right</u>. 								
Writing POLYNOMIALS	<p>Directions: Write each polynomial in standard form.</p> <table border="1"> <tr> <td>1. $7 - 2x$ $-2x + 7$</td> <td>2. $-8n + n^2 + 14$ $n^2 - 8n + 14$</td> </tr> <tr> <td>3. $25 - 2a + 10a^2$ $10a^2 - 2a + 25$</td> <td>4. $8w^2 - 2w + 7w^4$ $7w^4 + 8w^2 - 2w$</td> </tr> <tr> <td>5. $p - 2p^2 + 1 - 4p^3$ $-4p^3 - 2p^2 + p + 1$</td> <td>6. $-27 + 4y^2 - y^3 - 10y$ $-y^3 + 4y^2 - 10y - 27$</td> </tr> </table>	1. $7 - 2x$ $-2x + 7$	2. $-8n + n^2 + 14$ $n^2 - 8n + 14$	3. $25 - 2a + 10a^2$ $10a^2 - 2a + 25$	4. $8w^2 - 2w + 7w^4$ $7w^4 + 8w^2 - 2w$	5. $p - 2p^2 + 1 - 4p^3$ $-4p^3 - 2p^2 + p + 1$	6. $-27 + 4y^2 - y^3 - 10y$ $-y^3 + 4y^2 - 10y - 27$		
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Adding POLYNOMIALS	<p>Polynomials can be added by simply combining like terms. Make sure final answers are written in standard form.</p> <table border="1"> <tr> <td>7. $(7x + 15) + (4x - 9)$ $11x + 6$</td> <td>8. $(-3a + 16) + (2a - 27)$ $-a - 11$</td> </tr> <tr> <td>9. $(-4 - 2k) + (7k + 23)$ $5k + 19$</td> <td>10. $(-15m - 37) + (-1 + 8m)$ $-7m - 38$</td> </tr> <tr> <td>11. $(7c^2 + 2c) + (6c^2 - 8c)$ $13c^2 - 6c$</td> <td>12. $(3x - 8x^2) + (2x^2 - 3x)$ $-6x^2$</td> </tr> <tr> <td>13. $(8 - 5x + 6x^2) + (5x^2 - 8x - 7)$ $11x^2 - 13x + 1$</td> <td>14. $(5r^2 + 7r - 6) + (8r + 3r^2 - 1)$ $8r^2 + 15r - 7$</td> </tr> </table>	7. $(7x + 15) + (4x - 9)$ $11x + 6$	8. $(-3a + 16) + (2a - 27)$ $-a - 11$	9. $(-4 - 2k) + (7k + 23)$ $5k + 19$	10. $(-15m - 37) + (-1 + 8m)$ $-7m - 38$	11. $(7c^2 + 2c) + (6c^2 - 8c)$ $13c^2 - 6c$	12. $(3x - 8x^2) + (2x^2 - 3x)$ $-6x^2$	13. $(8 - 5x + 6x^2) + (5x^2 - 8x - 7)$ $11x^2 - 13x + 1$	14. $(5r^2 + 7r - 6) + (8r + 3r^2 - 1)$ $8r^2 + 15r - 7$
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	15. $(y^2 - 18 - y) + (10 + 4y - 5y^2)$ $-4y^2 + 3y - 8$	16. $(11 - 8p - 8p^2) + (p - 3p^2 - 25)$ $-11p^2 - 7p - 14$
SUBTRACTING POLYNOMIALS	Polynomials can also be subtracted by simply combining like terms. **However, make sure to distribute the negative first!**	
	17. $(7x + 2) - (5x + 3)$ $7x + 2 - 5x - 3$ $2x - 1$	18. $(3x - 11) - (11x - 6)$ $3x - 11 - 11x + 6$ $-8x - 5$
	19. $(8 - 4m) - (4m + 6)$ $8 - 4m - 4m - 6$ $-8m + 2$	20. $(1 - 7p) - (18 - 7p)$ $1 - 7p - 18 + 7p$ -17
	21. $(8w^2 - 7w) - (3w - 2w^2)$ $10w^2 - 10w$	22. $(2r^3 + 8) - (1 + 6r^3)$ $-4r^3 + 7$
	23. $(7x^2 - 6x + 5) - (5x^2 + 3x - 17)$ $2x^2 - 9x + 22$	24. $(3v + v^2 - 4) - (8 + 4v^2 + 2v)$ $-3v^2 + v - 12$
	25. $(3a^2 - 4 - 3a) - (5a + 5a^2 - 7)$ $-2a^2 - 8a + 3$	26. $(-5 - 6y - 3y^2) - (5y - 4y^2 - 2)$ $y^2 - 11y - 3$
	MIXED PRACTICE	Directions: Find each sum/difference. Write all answers in standard form.
27. $(2 - 4k) + (k + 39)$ $-3k + 41$		28. $(5m - 8) - (8 - m)$ $5m - 8 - 8 + m$ $6m - 16$
29. $(-1 + 13p^2) - (3p^2 + 14)$ $-1 + 13p^2 - 3p^2 - 14$ $10p^2 - 15$		30. $(8v^2 + 2v) + (-11v^2 - 2v)$ $-3v^2$
31. $(5x^2 + 14x - 15) - (3x^2 + 5x + 7)$ $2x^2 + 9x - 22$		32. $(n + 1 - 5n^2) + (4n^2 - 4n + 6)$ $-n^2 - 3n + 7$
33. $(6a^2 - 5 - 4a) + (3a + 7 + 3a^2)$ $9a^2 - a + 2$		34. $(2 - 3c^2 + 8c) - (5c - 8c^2 + 1)$ $5c^2 + 3c + 1$

Name: _____

Unit 2: Algebraic Expressions



Date: _____ Per: _____

Homework 11: Adding & Subtracting Polynomials

Directions: Write each polynomial in standard form.		
1. $-14 + 9x$ $9x - 14$	2. $7w^2 + 25 - 2w$ $7w^2 - 2w + 25$	3. $-1 - 4a^2 + 17a$ $-4a^2 + 17a - 1$
4. $3p + 2p^3 - 16p^2$ $2p^3 - 16p^2 + 3p$	5. $-6 + 8m^2 - 4m + 9m^3$ $9m^3 + 8m^2 - 4m - 6$	6. $k - 17 - 2k^3 + 14k^2$ $-2k^3 + 14k^2 + k - 17$
Directions: Find each sum/difference. Write all answers in standard form.		
7. $(3a + 6) + (6a + 7)$ $9a + 13$	8. $(4n - 6) - (3n + 2)$ $n - 8$	
9. $(4x + 7) - (8 - 3x)$ $7x - 1$	10. $(9c - 2) + (1 - c)$ $8c - 1$	
11. $(x^2 + 7x - 6) + (x^2 + 6x + 3)$ $2x^2 + 13x - 3$	12. $(v^2 + 7v - 5) - (6v^2 + 4v - 5)$ $-5v^2 + 3v$	
13. $(4c^2 - 8c + 1) + (1 - 8c - 2c^2)$ $2c^2 - 16c + 2$	14. $(4k^2 + 5 - 4k) - (9k - 2 - 5k^2)$ $9k^2 - 13k + 7$	
15. $(7m^2 - 3 + m) - (2m + 3 + 10m^2)$ $-3m^2 - m - 6$	16. $(r^2 - r + 1) + (-3 + 2r + 6r^2)$ $7r^2 + r - 2$	
17. Find the sum of $3 - a - 5a^2$ and $a - 7a^2 - 3$. $-12a^2$	18. Find the difference of $5k^2 - 7k + 6$ and $3k - 4k^2 + 1$. $9k^2 - 10k + 5$	
19. Subtract $8v - 3v^2 + 6$ from $7 - 6v + 5v^2$. $(7 - 6v + 5v^2) - (8v - 3v^2 + 6)$ $8v^2 - 14v + 1$	20. What is $8x + 11$ less than the product of -2 and $x - 7$. $-2(x - 7) - (8x + 11)$ $-2x + 14 - 8x - 11 = -10x + 3$	