Name Key Date _____

Standard 2A Review: Operations with Polynomials

a) Write the polynomial in standard form, b) Identify the degree, c) Identify the leading coefficient of the polynomial, and then d) classify the polynomial by the number of terms.

1. $3 + 2b^3 - 4r^2$

a) $2b^3 - 4r^2 + 3$

b) 3

c) 2

d) trinomial

2. $-1a + 6a^2 + 8a - 3a^2$

a) $3a^2 + 7a$

b) 2

c) 3

d) binomial

Find the sum or difference and write final answer in standard form.

3. $(2k^2 + k - 4) + (-4k^2 + 3k)$

$-2k^2 + 4k - 4$

4. $(5m^2 + 2m - 3) + (m^3 + 3m^2 - 6)$

$m^3 + 8m^2 + 2m - 9$

5. $(-4x^2 + 2x) - (5x^2 + 2x - 3)$

$-5x^2 - 2x + 3$

$-9x^2 + 3$

6. $(y^2 - 3xy + x^2) - (-5x^2 + 2xy)$

$+5x^2 - 2xy$

$6x^2 - 5xy + y^2$

Find the product and write the final answer in standard form. double distribute or use a box

7. $(x + 3)(x - 6)$

$x^2 - 6x + 3x - 18$

$x^2 - 3x - 18$

8. $(x + 8)(x + 6)$

	x	$+8$
x	x^2	$+8x$
$+6$	$+6x$	48

$x^2 + 14x + 48$

9. $(2p - 3)^2$

$(2p-3)(2p-3)$

$4p^2 - 6p - 6p + 9$

$4p^2 - 12p + 9$

10. $(y + 5)^2$

$(y+5)(y+5)$

$y^2 + 5y + 5y + 25$

$y^2 + 10y + 25$

11. $(3x + 2)(x^2 + 5x - 1)$

$3x^3 + 15x^2 - 3x$

$+2x^2 + 10x - 2$

$3x^3 + 17x^2 + 7x - 2$

12. $(y - 5)(y^2 + 6y - 8)$

	$y^2 + 6y - 8$		
y	y^3	$+6y^2$	$-8y$
-5	$-5y^2$	$-30y$	$+40$

$y^3 + y^2 - 38y + 40$

13. $(5z - 3)(5z + 3)$

$25z^2 + 15z - 15z - 9$

$25z^2 - 9$

Solve the equation.

14. $n(n + 5)(2n - 7) = 0$

$n = 0$ $n + 5 = 0$ $2n - 7 = 0$

$-5 \quad -5 \quad +7 \quad +7$

$n = 0$ $n = -5$ $\frac{2n}{2} = \frac{7}{2}$

$n = 7/2$

15. $(x + 2)(5x - 1) = 0$

$x + 2 = 0$ $5x - 1 = 0$

$-2 \quad -2 \quad +1 \quad +1$

$x = -2$ $\frac{5x}{5} = \frac{1}{5}$

$x = \frac{1}{5}$

16. $6x^2 - 30x = 0$

$6x(x - 5) = 0$

$\frac{6x}{6} = \frac{0}{6}$ $x - 5 = 0$

$+5 \quad +5$

$x = 0$ $x = 5$

17. $18x + 3x^2 = 0$

$3x(6 + x) = 0$

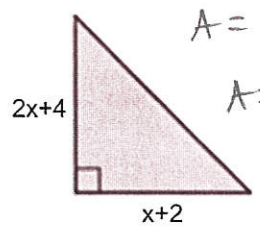
$\frac{3x}{3} = \frac{0}{3}$ $6 + x = 0$

$-6 \quad -6$

$x = 0, x = -6$

Write the polynomial that represents the area of the polygon.

18. Area $= \frac{1}{2} b \cdot h$



$A = \frac{1}{2}(2x+4)(x+2)$

$A = \frac{1}{2}(2x^2 + 4x + 4x + 8)$

$A = \frac{1}{2}(2x^2 + 8x + 8)$

$A = x^2 + 4x + 4$

19. Area $= b \cdot h$

$A = (x+4)(3x+1)$

$x + 4$ $A = 3x^2 + x + 12x + 4$

$A = 3x^2 + 13x + 4$