Algebra 1

Name_____

Date_____

Quiz 9.1-9.4 Study Guide

Classify each as **M** (monomial), **B** (binomial), **T** (trinomial), **P** (polynomial), or **C** (constant).

1). B $2x+1$

2). B $17x^2+11$

3). P $8x^3+2x^2+3x-7$

4). C -130

5). T $4a^2+7a-10$

6). T $10x^3-2x+1$

Simplify and write each expression in standard form. Then name each polynomial by its degree and number of terms

7. $-4+3x-2x^2$

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

2nd degree, Trinomial

8. $2b^2-4b^3+6$

$-4b^3+2b^2+6$

Trinomial, 3rd degree

9. $(2x^4+3x-4)+(-3x+4+x^4)$

$2x^4+3x-4$
$+\ x^4-3x+4$
$3x^4+0+0$

$3x^4$
Monomial
4th degree

10. $(-3r+4r^2-3)+(-4r^2+6r+2)$

$4r^2-3r-3$
$+\ -4r^2+6r+2$
$0-9r-1$

$-9r-1$
Binomial
1st degree

11. $(19x^2+12x+12)+(7x^2+10x+13)$

$19x^2+12x+12$
$7x^2+10x+13$
$26x^2+22x+25$

Trinomial, 2nd degree

12. $(4x^2-6x+7)+(-19x^2-15x-18)$

$4x^2-6x+7$
$-19x^2-15x-18$
$-15x^2-21x-11$

$-15x^2-21x-11$
trinomial,
2nd degree

13. $(20x^2+15x+13)+(-19x^2+17x+5)$

$20x^2+15x+13$
$-19x^2+17x+5$
$x^2+32x+18$

$x^2+32x+18$
trinomial
2nd degree

14. $(9x^6-4x^5)+(10x^5-15x^4+14)$

$9x^6-4x^5$
$10x^5-15x^4+14$
$9x^6+6x^5-15x^4+14$

$9x^6+6x^5-15x^4+14$
Polynomial, 6th degree

15. $(6x+14)-(9x+5)$

$6x+14$
$-9x-5$
$-3x+9$

$-3x+9$
binomial, 1st degree

16. $(19x^2+9x+16)-(5x^2+12x+7)$

$19x^2+9x+16$
$-5x^2-12x-7$
$14x^2-3x+9$

$14x^2-3x+9$
trinomial
2nd degree

17. $(17x^2+7x-14)-(-6x^2-5x-18)$

$17x^2+7x-14$
$6x^2+5x+18$
$13x^2+12x+4$

$13x^2+12x+4$
trinomial
2nd degree

18. $(-18x^2+4x-16)-(15x^2+4x-1)$

$-18x^2+4x-16$
$-15x^2-4x+1$
$-33x^2+0-15$

$-33x^2-15$
binomial
2nd degree

Factor

19. $-2x^4 - 4x^3 - 16x^2$

GCF: $-2x^2$

$-2x^2(x^2) + -2x^2(2x) + -2x^2(8)$

$-2x^2(x^2 + 2x + 8)$

20. $16b^4 - 4b^3 + 8b^2$

GCF: $4b^2$

$4b^2(4b^2) - 4b^2(b) + 4b^2(2)$

$4b^2(4b^2 - b + 2)$

21. $3x^3 + 9x^2$

GCF: $3x^2$

$3x^2(x) + 3x^2(3)$

$3x^2(x+3)$

22. $10y^3 + 5y^2 - 15y$

GCF: $5y$

$5y(2y^2) + 5y(y) - 5y(3)$

$5y(2y^2 + y - 3)$

Simplify each product using any method

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

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

$x^2 - 3x - 18$

24. $(2b - 4)(3b - 5)$

$6b^2 - 12b - 10b + 20$

$6b^2 - 22b + 20$

25. $(3x - 4)(3x^2 + x + 2)$

	$3x^2$	x	2
$3x$	$9x^3$	$3x^2$	$6x$
-4	$-12x^2$	$-4x$	-8

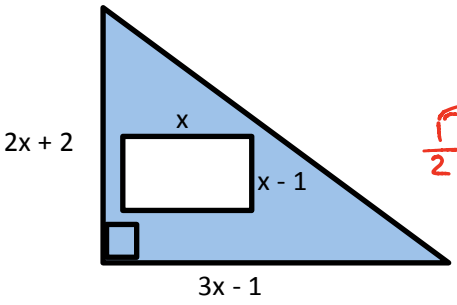
$9x^3 - 9x^2 + 2x - 8$

26. $(m^2 - 7m - 6)(7m^2 - 3m - 7)$

	$7m^2$	$-3m$	-7
m^2	$7m^4$	$-3m^3$	$-7m^2$
$-7m$	$-49m^3$	$21m^2$	$49m$
-6	$-42m^2$	$18m$	42

$7m^4 - 52m^3 - 8m^2 + 67m + 42$

27. Find the area of the shaded region



$\frac{1}{2}(2x+2)(3x-1) - x(x-1)$

$(x+1)(3x-1) - x(x-1)$

$3x^2 + 3x - x - 1 - x^2 + x$

$3x^2 + 2x - 1$

$-x^2 + x$

$2x^2 + 3x - 1$

$(a+b)^2 = a^2+2ab+b^2$

28. $(y+9)^2$

$y^2+2\cdot 9\cdot y+9^2$

$y^2+18y+81$

29. $(2h-7)^2$

$2^2h^2-2\cdot 2h\cdot 7+7^2$

$4h^2-28h+49$

30. $(p^3-7)(p^3+7)$ ← difference of 2 squares.

$(p^3)^2-7^2$

p^6-49

$(a+b)(a-b)$

a^2-b^2