NAME ANSWER KEY DATE _____ PERIOD ~~B~~ ADV.

Adding and Subtracting Polynomials

Find each sum or difference.

1. $(2x + 3y) + (4x + 9y)$

$2x+4x+3y+9y$

$6x + 12y$

2. $(6s + 5t) + (4t + 8s)$

$6s+8s+5t+4t$

$14s + 9t$

3. $(m^2 - m) + (2m + m^2)$

m^2+m^2-m+2m

$2m^2 + m$

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

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

$-x^2 - 8x$

5. $(d^2 - d + 5) - (2d + 5)$

$d^2-d-2d+5-5$

$d^2 - 3d$

6. $(2h^2 - 5h) + (7h - 3h^2)$

$2h^2+-3h^2-5h+7h$

$-h^2 + 2h$

7. $(5f + g - 2) + (-2f + 3)$

$5f+-2f+g-2+3$

$3f + g + 1$

8. $(6k^2 + 2k + 9) + (4k^2 - 5k)$

$6k^2+4k^2+2k-5k+9$

$10k^2 + -3k + 9$

Determine whether each expression is a polynomial. If it is a polynomial, find the degree and determine whether it is a *monomial, binomial,* or *trinomial.*

9. $5mt + t^2$

yes; degree 2, binomial

10. $4by + 2b - by$

yes; degree 2, trinomial

11. $5x^2 - 3x^{-4}$

no

12. $2c^2 + 8c + 9 - 3 \rightarrow 2c^2 + 8c + 6$

yes; degree 2, trinomial

Write each polynomial in standard form. Identify the leading coefficient.

{ # = leading coefficient }

13. $3x + 1 + 2x^2$

$2x^2 + 3x + 1$

14. $5x - 6 + 3x^2$

$3x^2 + 5x - 6$

15. $9x^2 + 2 + x^3 + x$

$x^3 + 9x^2 + x + 2$ 1

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

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

17. $x^2 + 3x^3 + 27 - x$

$3x^3 + x^2 - x + 27$

18. $25 - x^3 + x$

$-x^3 + x + 25$ -1

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

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

20. $x^2 + 64 - x + 7x^3$

$7x^3 + x^2 - x + 64$