Like Terms: same variable(s) with same exponents

Name KEY Date Period

Polynomials

Monomial	Binomial	Trinomial
*numbers and variables combined through multiplication	*sum of 2 monomials (2 monomials combined by + or -)	*sum of 3 monomials (3 monomials combined by + or -)
Examples: $-3x^8y$ -9 $14m$	Examples: $4x - 7$ $2x + 9y$ $2 + 13x$	Examples: $a + 2b + 4c$ $x^2 + 8x + 9$ $2x^2 + 2xy + y^2$

A polynomial is a monomial or sum of monomials.

Find each sum or difference.

1. $3x^4(4x - 5) + (3x + 6)$

$12x^5 - 15x^4 + (3x+6)$

$\boxed{12x^5 - 15x^4 + 3x + 6}$

2. change $(x^2 + y^2) - 3(4x^2 + 3y^2)$

$(x^2+y^2) - 12x^2 - 9y^2$

$-11x^2 - 8y^2$

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

$3x^2 + -3x^2 = 0 \quad y^3 + -y^3 = 0$

$\boxed{-10xy^2}$

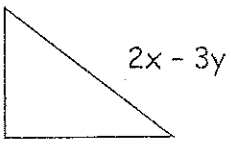
4. $(6x^2 + 12xy + 4y^2) - 3x^3y(2x^2 - 8xy + 2y^2)$

$(6x^2+12xy+4y^2) - 6x^5y + 24x^4y^2 - 6x^3y^3$

$\boxed{-6x^5y + 24x^4y^2 - 6x^3y^3 + 6x^2 + 12xy + 4y^2}$

Some of the measures of polygons are given. P represents the measure of the perimeter. Find the measure of the other side or sides.

5. $P = 5x + 2y$

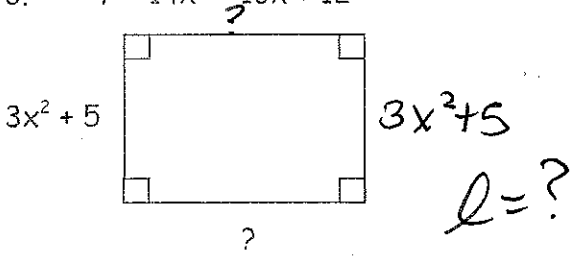


$(5x+2y) - [(2x-3y) + (x+2y)]$

$(5x+2y) - [3x - y]$

$\boxed{2x+3y}$

6. $P = 14x^2 + 10x + 12$



$l = ?$

$P = 2l + 2w$

$14x^2 + 10x + 12 = 2l + 2(3x^2 + 5)$

$14x^2 + 10x + 12 = 2l + 6x^2 + 10$

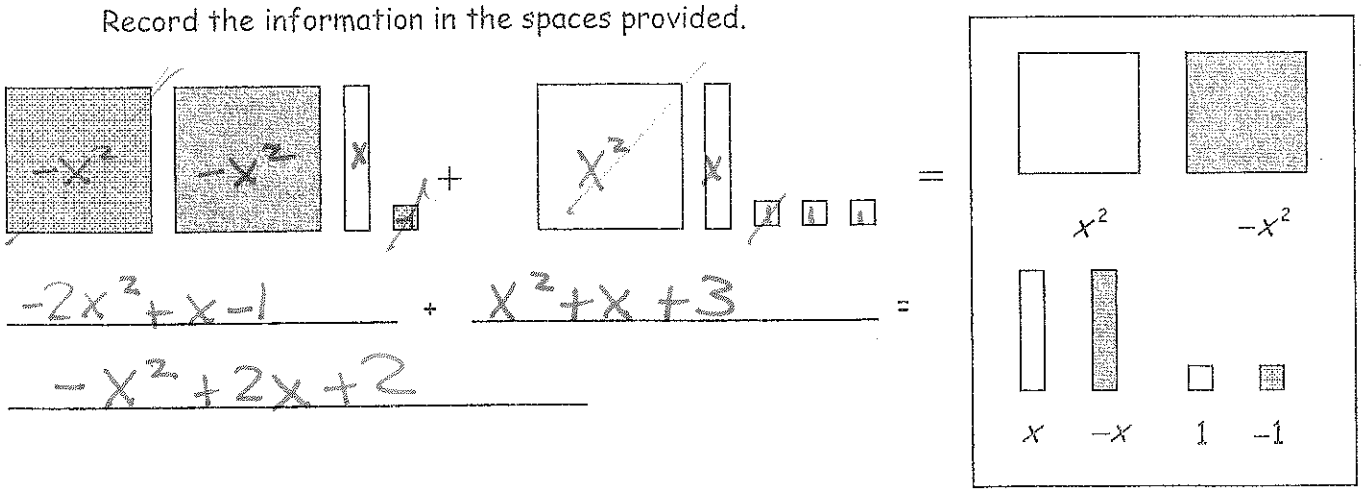
$-6x^2 \quad -10 \quad (-6x^2 - 10)$

$\frac{8x^2 + 10x + 2}{2} = \frac{2l}{2}$

$\boxed{4x^2 + 5x + 1 = l}$

(zero)
opposite pairs: -1 and $1 = 0$

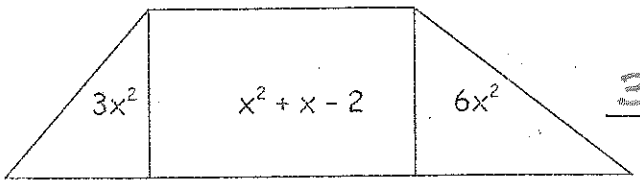
7. Use the algebra tiles legend to simplify the following sums.
Record the information in the spaces provided.



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

Find the total area of the polygon, given the area of each of its parts.

8. CLT



$3x^2 + x^2+x-2 + 6x^2 = 10x^2+x-2$

Solve.

9. Wal-Mart sold $(3x + 7)$ calculators last week. This week they sold $(6x - 2)$ calculators. How many calculators did they sell during the 2 week period? (ADD)

$(3x+7)+(6x-2) =$ $9x+5$

10. Chris has $(4x^2 - 5x)$ pounds of feed for his dog. Julie has $4x(7x + 13)$ pounds of feed. If they combined the feed, how much would they have for their dogs?
ADD

$(4x^2-5x)+4x(7x+13) = 4x^2-5x+28x^2+52x = 32x^2+47x$

11. Last week Stephanie worked $(7x^2 - 4x + 12)$ hours, while Abraham worked $(4x^2 + 2x - 1)$ hours. How many more hours did Stephanie work last week?
Subtract

$(7x^2-4x+12)-(4x^2+2x-1) = 3x^2-6x+13$

12. Judith received $\$(24x + 18)$ for making good grades on her report card. She went on a shopping spree and spent $\$(3x - 6)$ at the Gap, $\$(15x + 12)$ at Old Navy, and $\$(-4x + 8)$ at Foleys. How much of her grade money did she have left after her shopping spree?

$(24x+18)-[(3x-6)+(15x+12)+(-4x+8)]$

$(24x+18)-[14x+14] = 10x+4$