Name: Key
8A; Algebra 1

Date:_____
Period_____

Homework

Simplify the following

1) $(4t - 3t^2 + 5) + (-2t^2 + 3t - 5)$

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

$-5t^2 + 7t$

2) $a^2 + 3a + 5 + 2a^2 - 4a - 1 - 5a^2 + 2a$

$a^2 + 2a^2 - 5a^2 + 3a - 4a + 2a + 5 - 1$

$-2a^2 + a + 4$

3) Subtract $5x + 3y$ from $4x + 5y$

$(4x + 5y) + (-5x - 3y)$ OR $(4x + 5y) - (5x + 3y)$

$4x + 5y - 5x - 3y$

$-1x + 2y$ $-1x + 2y$

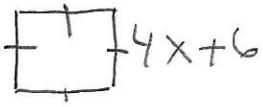
4) From $5x + 3y$ subtract $4x + y$

$(5x + 3y) + (-4x - y)$ or $(5x + 3y) - (4x + y)$

$5x + 3y - 4x - y$

$x + 2y$ $x + 2y$

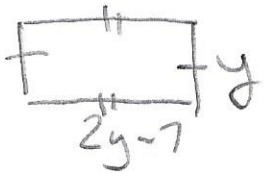
5) Represent the perimeter of a square whose side length is given by the binomial $4x + 6$



$4(4x + 6)$

$16x + 24$

6) Represent the perimeter of a rectangle whose width is y and whose length is the binomial $2y - 7$

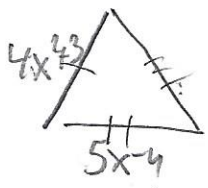


$2(y) + 2(2y - 7)$

$2y + 4y - 14$

$6y - 14$

7) The perimeter of a triangle is given by the expression $12x^2 - 4x + 15$. Find the third side of the triangle if the other two sides measure $4x^2 + 3$ and $5x - 4$.



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

$4x^2 + 5x - 1$

$12x^2 - 4x + 15$

$+(-4x^2 - 5x + 1)$

$8x^2 - 9x + 16$

$(12x^2 - 4x + 15) - (4x^2 + 5x - 1)$

OR $12x^2 - 4x + 15 - 4x^2 - 5x + 1$

$8x^2 - 9x + 16$

8) By how much does $7x + 5$ exceed $4x - 3$?

$$\begin{array}{r} 7x+5 \\ +(-4x+3) \\ \hline 3x+8 \end{array}$$

or $(7x+5) - (4x-3)$

$7x+5-4x+3 =$

$3x+8$

9) What expression must be added to $3x^2 - 5x + 4$ to give the result $7x^2 - 5x - 6$?

$$\begin{array}{r} 7x^2-5x-6 \\ +(-3x^2+5x-4) \\ \hline 4x^2-10 \end{array}$$

or $(7x^2-5x-6) - (3x^2+5x-4)$

$7x^2-5x-6-3x^2+5x-4 =$

$4x^2-10$

* 10) Subtract the sum of $2x^2 - 3x + 4$ and $x^2 + 2x - 1$ from $6x^2 - 2x + 1$.

$$\begin{array}{r} 2x^2-3x+4 \\ +\ x^2+2x-1 \\ \hline 3x^2-1x+3 \end{array}$$

$$\begin{array}{r} 6x^2-2x+1 \\ +(-3x^2+1x-3) \\ \hline 3x^2-x-2 \end{array}$$

or $(6x^2-2x+1) - (3x^2-x+3)$

$6x^2-2x+1-3x^2+x-3$

$3x^2-x-2$

11) $(y^2 - 4y) + (6 + 9y) - (2y^2 - 4)$

$$\begin{array}{r} y^2+5y+6 \\ +(-2y^2+4) \\ \hline -y^2+5y+10 \end{array}$$

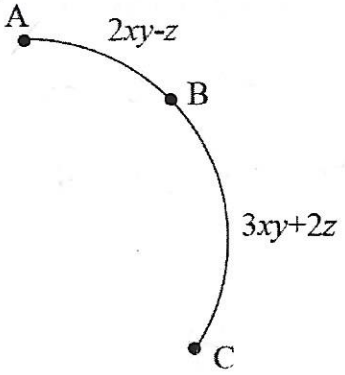
or $y^2-4y+6+9y-2y^2+4$

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

$-y^2+5y+10$

**Challenge: 12)

Write the length of the arc $\overset{\frown}{ABC}$ as a binomial involving x, y, and z.



$$\begin{array}{r} 2xy-2 \\ +\ 3xy+2z \\ \hline 5xy+z \end{array}$$