Name: **Key**

Hour: _____

Write each statement using number, variables and operations.

1. The sum of a number and 4 is greater than 15. $n + 4 > 15$

2. -9 times (the quantity of a number minus 6) is the same as −18

   $-9(n - 6) = {}^-18$

3. The difference of a number and 13. $n - 13$

4. 3 less than a number. $n - 3$

5. A number cannot exceed 44. $n \leq 44$

6. The quotient of a number and 14 is less than or equal to 22. $\dfrac{n}{14} \leq 22$

7. -12 and the sum of a number is greater than that same number plus 7.

   $-12 + n > n + 7$

8. The product of a number and -3 minus -7.

   $(-3 \cdot n) - (-7)$

9. 38 is the total of 43 and some number. $38 = 43 + n$

10. A number increased by 20 equals 16. $n + 20 = 16$

11. A number squared is at least 33. $n^2 \geq 33$

12. The difference of 4 and a number cubed is less than 20. $4 - n^3 < 20$

13. A number decreased by 16 is zero. $n - 16 = 0$

14. The quotient of some number and the quantity of 3 times that same number minus 5.

   $\dfrac{n}{(3n - 5)}$

State the number of terms, coefficients, constant terms and like terms for each expression.
Then simplify each expression.

1. $3x + 4y + 9xy - 9x + 5 - 3x - (-2y) + 4xy - 5$

Terms	Coefficients	Constant terms	Like Terms	Simplified
9		2		
3x 4y 9xy -9x 5 -3x 2y 4xy -5	3, 4, 9, -9, -3, +2,	5 , -5	3x, -9x, -3x 4y, +2y 9xy, 4xy 5, -5	-9x +6y +13xy

2. $8x + 3x^2 - 6x + 5x^2 - 5 + 6x - 15x^2$

Terms	Coefficients	Constant terms	Like Terms	Simplified
7		1		
8x 3x² -6x 5x² -5 6x -15x²	8, 3, -6, 5, 6, -15	-5	8x, -6x, 6x 3x², 5x², -15x²	-7x² +8x -5

3. $3 - 4ab + 6a - 4b$

Terms	Coefficients	Constant terms	Like Terms	Simplified
4		1		
3 -4ab 6a -4b	-4, 6,	3	none	-4ab +6a -4b +3

+ is a coefficient

4. $3x - 4y + 5 - 3xy - y + 2 - x + 7xy - 3 + x^2$

1 is a coefficient

Terms	Coefficients	Constant terms	Like Terms	Simplified
10				
3x -4y +5 -3xy -y +2 -x +7xy -3 -x²	3, -4, -3, -1, 7, 1	5, 2, -3	-3xy, 7xy -4y, -y 5, 2, -3 3x -x	x² -4xy + 2x -5y +4

5. $4x - 6 + x - 4y$

Terms	Coefficients	Constant terms	Like Terms	Simplified
4				
4x -6 x -4y	4, 1, -4	-6	4x, x	5x -4y -6