Simplifying an Expression

An expression is one or more terms that are added or subtracted.
Examples: $3x$, $2x+5$, $-6x-5$, $4x^2+3m-9r+5$

SIMPLIFY an expression using $GE(\overline{MD})(\overline{AS})$:

1. Work <u>inside</u> all **G**roupings.
   $(Parentheses)$, $\frac{Fraction}{Bar}$, $\sqrt{Radical}$, $|Absolute\,value|$
2. Work with **E**xponents.
3. Do **M**ultiplication and **D**ivision combinations from <u>Left to Right</u>.
4. Do **A**ddition and **S**ubtraction combinations from <u>Left to Right</u>.

Simplify: $3x-5x+2x\cdot 4$

$3x-5x+8x$ Multiply

$6x$ Add / Subtract <u>like terms</u> <u>left to right</u>

Simplify: $5(2x+7-3x)+(4x)^2$

$5(-1x+7)+(4x)^2$ Work inside parentheses

$5(-1x+7)+16x^2$ Work with exponents

$-5x+35+16x^2$ Distributive property (multiplying)

Note: Instructors <u>expect</u> terms with exponents to be written in descending order like this: $16x^2-5x+35$

Simplify: $(5r^2+3r-2)-(2r^2-7r+8)$

$5r^2+3r-2-2r^2+7r-8$ Distributive property

Note: Subtracting will change the sign of each term being subtracted.

$3r^2+10r-10$ Add / Subtract <u>like terms</u>.

	<u>Simplify</u>	<u>Answer</u>
1.	$3x-7x+5-8+x$	$-3x-3$
2.	$(5x+3)-(3x-8)$	$2x+11$
3.	$4(2x-7)+3x(5x-2)$	$15x^2+2x-28$
4.	$5h+3(2h-7)-2(6h)+10$	$-h-11$
5.	$-4(3w-5)-(2w^2-8w+9)$	$-2w^2-4w+11$
6.	$(5r+6-11)2+8(-3r+r+2)$	$-6r+6$