COMBINING LIKE TERMS

"You can't compare apples to oranges."

Examples:

1. 2 apples + 3 apples

2. 14 oranges + 7 oranges – 5 oranges

3. 8 apples + 6 oranges + 4 apples + 10 oranges

4. 8a + 6g + 4a + 10g

A Typical TERM: $$-8\,x$$

Remember:
   1. **LIKE TERMS have the same** _____ **and** _____

   2. **The NUMERICAL COEFFICIENT may be different between like terms**

   3. **We care about like terms because you CAN only combine LIKE TERMS!!**

Circle the LIKE TERMS:

Example 1:	$7x$	$-5y$	$4x$	$9x^2$	$-3xy$	11	x^3
Example 2:	$2y$	$4xy$	$-9y^2$	8	x^4	$7xy$	x

Examples:

1. $7a + a =$

2. $9p - p =$

3. $7x - 10y - 3x -(-6y)$

4. $9x^2 - xy + y - 6x^2 + 8xy + 9y$

COLLECT LIKE TERMS AND SIMPLIFY

$-3x + 9x$	$2y - 10y$	$-6xy + xy$	$12y - y + 3$
$-2y + 7y + 4$	$5x + 7 + x - 9x$	$-8y - 2y - 4 - 4y$	$8y - (-8y) + 4x$
$4x + 2y + 4x - 5y$	$9 - 3x - (-8y) + 9x - y$	$xy + 2x + 3xy - 2y$	$-x^2 + 7 - 7x + 2x^2 - 3x - 1$

EXPANDING

Examples:

1. double 7   **2.** double $(5x + 3)$ **3.** $2(7x – 5)$

When EXPANDING, use the DISTRIBUTIVE PROPERTY – the _____ RULE

Multiply EACH TERM inside the bracket by the TERM outside the bracket

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4. $3(5xy - 2x)$ **5.** $4(3x - 5) + 6(9x + 2)$ 6. $8(4 – p) – 3(2p + 5)$