

Name Key

Date \_\_\_\_\_

Mrs. Roubos

8R Period \_\_\_\_\_

Solving Algebraic ExpressionsI. Expressions: A mathematical phrase that can contain numbers, variables, and operations(no = sign)II. Steps:

- 1) Substitute the values into the correct variables using parentheses ( ).
- 2) Solve using order of operations (PEMDAS)

III. Examples: Simplify

1) $a^2 - b$ if $a = 3$ and $b = -4$ $(3)^2 - (-4)$ $9 - (-4)$ $13$	2) $3x^2 + y$ if $x = 1$ and $y = -3$ $3(1)^2 + (-3)$ $3 \cdot 1 + (-3)$ $3 + (-3)$ $0$
3) $x^2 - 5x + 3$ when $x = 5$ $(5)^2 - 5(5) + 3$ $25 - 5(5) + 3$ $25 - 25 + 3$ $0 + 3$ $3$	4) $(x + 4)^2$ when $x = -11$ $(-11 + 4)^2$ $(-7)^2$ $49$
5) $s^2t - 10$ for $s = -2$ and $t = 10$ $(-2)^2(10) - 10$ $4 \cdot 10 - 10$ $40 - 10$ $30$	6) $4p^2 + 7c^3$ for $p = -3$ and $c = -2$ $4(-3)^2 + 7(-2)^3$ $4 \cdot 9 + 7(-8)$ $36 + -56$ $36 - 56$ $-20$
7) $3x^2y$ if $x = 2$ and $y = 3$ $3(2)^2(3)$ $3 \cdot 4 \cdot (3)$ $12 \cdot 3$ $36$	8) $5c + 10x$ if $c = 8$ and $x = 6$ $5(8) + 10(6)$ $40 + 60$ $100$