

## ALG.a

Date \_\_\_\_\_ Period \_\_\_\_\_

## ALG.a.1

Identify like terms in the following variable expressions.

1)  $\boxed{-8n^2} - 8\boxed{+4n^2} + 7n^3$

Like Terms:  $(-8n^2, 4n^2)$ 

2)  $2n\boxed{-5} - 3n^2 + \boxed{12}$

Like Terms:  $-5, 12$ 

3)  $\boxed{8x^2} - 3x^3\boxed{-5} + 8x\boxed{-10x^2} + \boxed{1}$

Like Terms:  $(8x^2, -10x^2); (-5, 1)$ 

4)  $\boxed{-6x^3} - 4x + 5x^2\boxed{-4x^3}\boxed{-5} + \boxed{x^3} + \boxed{10}$

Like Terms:  $(-6x^3, -4x^3, x^3); (-5, 10)$ 

TERMS are separated by addition and subtraction signs

LIKE TERMS

- ① Numbers are like terms
- ② Variable terms are LIKE TERMS

IF THE VARIABLE AND THEIR EXPONENTS ARE THE SAME.

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ALG.a.2

Simplify variable expressions by combining like terms. Write expressions in standard form.

Circle your answer.

1)  $2x + 9x = \boxed{11x}$

2)  $10x - x = \boxed{9x}$   
*implied -1*

3)  $8n + 1 + 5$

$= \boxed{8n + 6}$

4)  $n + 10 + 4n - 2 = \boxed{5n + 8}$   
*implied 1*

WORK

\* No work is needed to show

\* WRITE IN STANDARD FORM -

① THE VARIABLE TERM GOES FIRST

② THE CONSTANT (NUMBER) TERM  
GOES LAST

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ALG.a.3

Simplify complex variable expressions by combining like terms and distributing an integer. Write expressions in standard form. Clearly show EACH STEP. Circle your answer.

1)  $\overbrace{5(9n - 10)} + 3$

$$\underline{45N - 50} + 3$$

$$\boxed{45N - 47}$$

2)  $6n - \overbrace{5(1 - 4n)}$

$$\underline{6N} - 5 + \underline{20N}$$

$$\boxed{26N - 5}$$

3)  $2 - \overbrace{8(n + 10)}$

$$\underline{2} - \underline{8N} - \underline{80}$$

$$\boxed{-8N - 78}$$

4)  $\overbrace{-3(n + 5)} - \overbrace{(n + 9)}$

$$\underline{-3N} - \underline{15} - \underline{1N} - \underline{9}$$

$$\boxed{-4N - 24}$$

### STEPS

① DISTRIBUTE② COMBINE LIKE TERMS③ WRITE EXPRESSION IN STANDARD FORM :
$$[\text{Variable Term}] + [\text{constant term}]$$

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ALG.a.4

Simplify complex variable expressions by combining like terms and distributing a variable term. Write expressions in standard form. Clearly show EACH STEP. Circle your answer.

$$1) \overbrace{2x(4x+7)} = \boxed{8x^2 + 14x}$$

$$2) \overbrace{-4x(x-3)} = \boxed{-4x^2 + 12x}$$

$$3) \overbrace{-3x(x+6)} - 3x =$$

$$\underline{-3x^2} - \underline{18x} - \underline{3x}$$

$$\boxed{-3x^2 - 21x}$$

$$4) 7x + \overbrace{3x(10x-9)}$$

$$\underline{7x} + \underline{30x^2} - \underline{27x}$$

$$\boxed{30x^2 - 20x}$$

remember write in  
Standard form

ie  $x^2 - 4x + 10$

$$\boxed{\text{Remember } x \cdot x = x^2}$$