6.EE.3 6.EE.4 (ALT 2) – Introduction to Combining Like Terms

Student Notes

Consider this expression. **5x + y + 8**

- A coefficient is the number that multiplies the variable. **5x + y + 8**

  All variables have a coefficient. If you don't see a number in front of the variable, it is assumed to be 1.

  5 is the coefficient in front of the x.
  1 is the coefficient in front of the y.

  A constant is a term that has no variable with it. **5x + y + 8**
  It's a standalone number

- Terms are separated by addition or subtraction in an expression. The expression on the right has three terms. **5x + y + 8**

  Like Terms are terms that contain the same letter variable which are raised to the exact same power. Only the first number "coefficient" can be different.

Like Terms	Unlike Terms	Why are they Unlike Terms?
$2x + 19x$	$2x + 19a$	The variables are different.
$4w - 10w$	$4w - 10w^2$	The exponents are different.
$14.2r - 12r$	$12r - 12s$	The variables are different.
$32a^2 + 9a^2$	$32a^2 + 9a^3$	The exponents are different.
$8y + 5y$	$8y + 5$	One term is a constant and the other has a variable.

Like terms can be combined to make one term.
Constants can also be combined to make one number.

Simplify: $x + 2y + 9 + 2x + 3y - 4$

Here, the ***x's*** can be combined, the ***y's*** can be combined, and the ***constants*** can be combined.

$x + 2y + 9 + 2x + 3y - 4$

Answer: $3x + 5y + 5$

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Directions: Simplify each expression by combining like terms.

	Expression	Simplify
1)	$2x + 3y + 7 + 3x + 6y – 3$	**$5x + 9y + 4$**
2)	$10b – 4b – b + 2 + b + 6$	**$6b + 8$**
3)	$9b + 2b – 2 + b$	**$12b – 2$**
4)	$8 + 3x – 4xy + 7 – y – 5$	**$3x – 4xy – y + 10$**
5)	$3x + 8y + 4xy – 4y – x – xy$	**$2x – 4y + 3xy$**
6)	$y + y + y$	**$3y$**
7)	$3 + 5x + 2 + 4x$	**$9x + 5$**
8)	$5x^2 + 3y + 3x^2 – 7 + 6y$	**$8x^2 + 9y – 7$**
9)	$4x + 2 – 3x + 5 + 6x^2$	**$x + 6x^2 + 7$**
10)	$2 + 7x + 12 – 3x – 5$	**$4x + 9$**