

Name: *Key*

Date:

Topic:

Class:

Main Ideas/Questions

Notes/Examples

PARTS OF AN EXPRESSION

$$14x + 9 - 2x + 8 - 5x + 1$$

Variable Terms

(Terms WITH a variable)

$$14x, -2x, -5x$$

Constant Terms

(Terms WITHOUT a variable)

$$9, 8, 1$$

Coefficients

(Number NEXT TO a variable)

$$14, -2, -5$$

EXAMPLES

Directions: Identify the variable terms, constant terms, and coefficients.

	Expression	Variable Terms	Constant Terms	Coefficients
1.	$11a + 4a$	$11a, 4a$	None	$11, 4$
2.	$3x + 6 + 7x - 4$	$3x, 7x$	$6, 4$	$3, 7$
3.	$-12m - 3 + 4m + 16$	$-12m, 4m$	$-3, 16$	$-12, 4$
4.	$6k - 4 + k - 2$	$6k, k$	$-4, -2$	$6, 1$
5.	$3 + 13 - 5p - 2p$	$-5p, -2p$	$3, 13$	$-5, -2$
6.	$-10r - r - 6r + 11$	$-10r, -r, -6r$	11	$-10, -1, -6$
7.	$19 - 5n - 8 + 14$	$-5n$	$19, -8, 14$	-5
8.	$-5 + 13y - 2y + 18$	$13y, -2y$	$-5, 18$	$13, -2$
9.	$8a - 7b + 1 - 2b + 3a$	$8a, -7b, -2b, 3a$	1	$8, -7, -2, 3$
10.	$11x - 4y + 2x + 8$	$11x, 2x, -4y$	8	$11, 2, -4$

COMBINING LIKE TERMS

You can simplify an algebraic expression by **combining like terms**. This means to combine common variable terms and constant terms.

Example: Simplify the expression below:

$$14x + 9 - 2x + 8 - 5x + 1 = \underline{7x + 18}$$

EXAMPLES

Directions: Simplify each expression.

11. $4x + 7x$

$$11x$$

12. $k - 6k$

$$-5k$$

13. $6c + 1 + 11c$

$$17c + 1$$

14. $7 - 2y + 12$

$$-2y + 19$$

15. $11m - 5m - 13$

$$6m - 13$$

16. $-6 + 8a - 16$

$$8a - 22$$

17. $9v + 7 - 3v - v$

$$5v + 7$$

18. $4 - 2n - 3n - 19$

$$-5n - 15$$

19. $-14w + 10w - 11 + 2w$

$$-2w - 11$$

20. $-1 - 6 - 5r + 13r$

$$8r - 7$$

21. $10 + 4h - 8h - 1$

$$-4h + 9$$

22. $-7x - 12 + x - 9 + 6x$

$$-21$$

23. $-8x - 2y + 23x - 6y$

$$15x - 8y$$

24. $-a - 5b + 4b - 11b + 2 - 3a$

$$-4a - 12b + 2$$

25. $9m - 5n + 14 + m - 2n - 7$

$$10m - 7n + 7$$

26. $2c + 7d - 8c - c - 5 + 4d$

$$-7c + 11d - 5$$

27. $\frac{7}{2} \cdot \frac{11}{4} k - \frac{3}{8} k$

$$\frac{22}{8} k - \frac{3}{8} k = \frac{19}{8} k$$

28. $\frac{3}{4} \cdot \frac{5}{6} v + \frac{7}{15} \cdot \frac{3}{2} v - \frac{1}{2} \cdot 2 \cdot \frac{3}{4} - \frac{2}{4} = \frac{1}{4}$

$$-\frac{5}{30} + \frac{21}{30} = \frac{16}{30} = \frac{8}{15} v \quad \frac{3}{4} - \frac{2}{4} = \frac{1}{4}$$