

SIMPLIFYING EXPRESSIONS

ANSWERS

Helpful Examples

a. $\frac{4a+8}{2} + 3a - 6$
 $= \frac{4a}{2} + \frac{8}{2} + 3a - 6$ *Distributive Property*
 $= 2a + 4 + 3a - 6$
 $= 2a + 3a + 4 - 6$ *Commutative Property*
 $= 5a - 2$

DISTRIBUTE THE 2 BY DIVIDING EACH NUMBER SEPARATELY.

MOVE TERMS SO LIKE TERMS ARE TOGETHER.

b. $4(2r + 6d - 3) - (4r - 15)$
 $= 4(2r + 6d - 3) - (4r - 15)$ *Distributive Property*
 $= 8r + 24d - 12 - 4r + 15$
 $= 8r - 4r + 24d - 12 + 15$ *Commutative Property*
 $= 4r + 24d + 3$

DISTRIBUTE THE 4 AND THE NEGATIVE SIGN.

MOVE TERMS SO LIKE TERMS ARE TOGETHER.

Simplify each expression.

Why should you use the *Associative Property* not the *Distributive Property*?

1. $2(5e - 3t + 7) + 5(6t + 3)$

$10e + 24t + 29$

2. $2(23c \cdot 5) + 7c$

$237c$

3. $(9g + 13h) - (4g - 3h)$

$5g + 16h$

4. $\frac{9x+3}{3} - 7 - 8x$

$-5x - 6$

5. $8(5b - 9k + 7d)$

$40b - 72k + 56d$

6. $14abc + 3a - 5b + 6c$

$14abc + 3a - 5b + 6c$

7. $-3(4z - 11w) + 6(7w - 3z)$

$-30z + 75w$

8. $2i + (9n + 15ni + 4i) + 3ni$

$18ni + 6i + 9n$

9. $5(8v - 5 - 15v)$

$-35v - 25$

10. $(18u - 27q) - (13q + 22u)$

$-4u - 40q$

11. $6y - 9m + 2my - 6y - 9m$

$2my - 18m$

12. $\frac{5-10r}{5} + (5r+3)$

$3r + 4$

13. $(x + y) - (x - z) + (y - z)$

$2y$

14. $\frac{8k+4e}{4} - (-3k+7e)$

$5k - 6e$

15. $c(6t - 8s) - 6(3c - 9ct)$

$60ct - 8cs - 18c$