ALBERT

Name _____ Date _____

# Simplifying Expressions Worksheet

Grade 7 · Common Core 7.EE.A.1

> Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients.

## Practice

Builds the skill step by step.

1. Simplify: $4x + 7 - 2x + 3$

2. Expand: $-3(x - 5)$

3. Simplify: $6a - 9 - a - 4$

4. Which expression is equivalent to $5(2y - 1)$?

   A. $10y - 1$

   B. $7y - 5$

   C. $10y + 5$

   D. $10y - 5$

5. Factor using the greatest common factor: $6x + 18$

6. Simplify: $\frac{1}{2}x + \frac{1}{4}x$

7. Expand: $\frac{1}{3}(6m + 9)$

8. Simplify: $0.5n + 1.5n - 4$

9. Factor using the greatest common factor: $12k - 8$

10. Which expression is equivalent to $8 - 3x + 2x$?

    A. $8 - 5x$

    B. $8 - x$

    C. $7x$

    D. $8 + x$

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## On Level

Grade-level practice.

1. Simplify: $3(2x - 4) - 5x$

2. Simplify: $-2(3a + 1) + 4(a - 2)$

3. Subtract: $(5x + 3) - (2x - 7)$

4. Which expression is equivalent to $-4(2 - 3y)$?

   A. $-8 - 12y$

   B. $-8 + 12y$

   C. $8 - 12y$

   D. $-6 - 3y$

5. Simplify: $\frac{2}{3}(9x - 6) + x$

6. Factor using the greatest common factor: $15m - 25n + 10$

7. Simplify: $1.5(4p + 2) - 0.5p$

8. Add: $(\frac{1}{2}x - 3) + (\frac{3}{4}x + 5)$

9. Factor using a negative common factor: $-6x - 15$

10. Which expression is NOT equivalent to $12x - 18$?

    A. $6(2x - 18)$

    B. $6(2x - 3)$

    C. $3(4x - 6)$

    D. $2(6x - 9)$

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## Challenge

Multi-step and word problems that stretch it.

1. Simplify: $4(x - 2) - 3(2x - 5)$

2. Simplify: $\frac{3}{4}(8y - 4) - \frac{1}{2}(6y + 2)$

3. A rectangle has length $3x + 4$ and width 2. Write its perimeter in simplest form.

4. Jamal simplified $7 - 2(x - 3)$ as $5x - 15$. What is the correct simplified expression?

   A. $5x - 15$

   B. $13 - 2x$

   C. $1 - 2x$

   D. $13 + 2x$

5. Subtract: $(2.5a - 1.25) - (0.75a - 3)$

6. Factor $24n + 36$ using the greatest common factor.

7. The sides of a triangle are $2x + 1$, $3x - 4$ and $x + 6$. Write the perimeter in simplest form.

8. Simplify: $-\frac{1}{2}(4x - 10) + \frac{1}{3}(3x + 12)$

9. Find the missing number: $3(2x - ?) = 6x - 21$

10. Maria earns $12 per hour plus a $30 weekly bonus. Jon earns $15 per hour. Both work h hours in a week. Write a simplified expression for how much more Jon earns than Maria.