



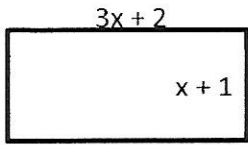
Algebraic Expressions

Directions: Work each problem and show all your work. For correct answer you will earn the points listed. Add up your points earned for each correct answer. The people that earn more than 20,000 points get a raffle ticket.

Vocabulary: Algebraic Expression, Simplify, Like Terms, Distributive property, Solve, and Equation

<p>Example 1) Simplify: $3x - 4 + 5x + 3$</p>	<p>2) Simplify: $-5x + 4 + 2x + 3x$</p> <p style="text-align: right;">400 points</p>	<p>3) Simplify: $3x + 4 + 2x - 2 - x$</p> <p style="text-align: right;">400 points</p>
<p>Example 4) Simplify: $3x - y + 3z - 2z + 5y + 3$</p>	<p>5) Simplify: $3x + 2y + 2 + 10x - y + 5$</p> <p style="text-align: right;">800 points</p>	<p>6) Simplify: $-5x + 2y - 8 + 3x + 4y - 2x + 5$</p> <p style="text-align: right;">800 points</p>
<p>Example 7) Simplify: $3x + 2x^2 + 4 + 2x + 5x^2$</p>	<p>8) Simplify: $2x^2 - 2x + 2y^2 + 4x^2$</p> <p style="text-align: right;">800 points</p>	<p>9) Simplify: $-3y^2 - 2x + 3x^2 + 2y^2 + 4x^2$</p> <p style="text-align: right;">800 points</p>
<p>Problem 10. Simplify: $4x + 5y + 2 - 5y + 4$</p> <p style="text-align: right;">1000 points</p>	<p>Problem 11. Simplify: $4x + 3 - x$</p> <p style="text-align: right;">1000 points</p>	<p>Problem 12. Simplify: $4z + 3z^2 + 2y^2 - 4z^2 + y^2$</p> <p style="text-align: right;">1000 points</p>
<p>Problem 13. Martha takes her niece and nephew to a concert. She buys T-shirts and bumper stickers for them. Martha's niece wants 1 shirt and 4 bumper stickers, and her nephew wants 2 shirts but no bumper stickers. Write an expression that models this situation and simplify.</p> <p style="text-align: right;">1000 points</p>	<p>Problem 14.</p> <div style="text-align: center;">  <p>Angela Brian Carlos Danielle</p> </div> <p>Angela: I have 3 times as many as Brian Brian: I have I have 4 fewer than Carlos Carlos: I have $\frac{1}{2}$ as many cans as Angela Danielle: I have three less than Brian. All of you have more cans than I do.</p> <p>Write an expression for each student.</p> <p>Angela: _____ Brian: _____ Carlos: _____ Danielle: _____</p> <p style="text-align: right;">1000 points.</p>	<p>Problem 15. Find the perimeter of the square.</p> <p style="text-align: center;">$-x+5$</p> <div style="text-align: center;">  </div> <p style="text-align: right;">1000 points</p>

Problem 16.
Simplify: Write an expression that models the perimeter of the rectangle below and simplify.



2000 points

Problem 17.
Simplify: $2(3 + 4x)$

2000 points

Problem 18.
Simplify: $4(2x - 3y)$

2000 points

Problem 19.
Simplify: $-3(x + 4 + 2x)$

2000 points

Problem 20.
Simplify: $-2(3x - 4y + 2y)$

2000 points

Problem 21.
Simplify: $4(-5y - 2x + 3)$

2000 points

Problem 22.
Simplify: $-(2x - 3)$

2000 points

Problem 23.
Simplify: $-3(-2x + 4y + 2)$

2000 points

Problem 24.
Simplify: $-3(4y^2 - 2x + 4y + 2x)$

2000 points

Problem 25.
Write the expression: The product of 8 and the sum of an unknown and 3.

4000 points

Problem 26.
Janet has already knit 4 centimeters of scarf, and can knit 11 centimeter each night. After 40 nights of knitting, how many centimeters of scarf will Janet have knit in total?

4000 points

Problem 27.
Martha takes her niece and nephew to a concert. She buys T-shirts and bumper stickers for them. Martha's niece wants 1 shirt and 4 bumper stickers, and her nephew wants 2 shirts but no bumper stickers. Martha's total is \$67. What is the cost of one shirt?

4000 points

Problem 28.
Simplify: $11m - 8 - 6m = 22$

2000 points

Problem 29.
Simplify: $-2y + 5 + 5y = 14$

2000 points

9) Problem 30.
Simplify: ~~$-3(4y^2 - 2x + 4y + 2x)$~~

2000 points