

Chapter 1 — Introduction to Algebra

Worksheet C: Mixed Application

Name: _____ Grade: _____ Date: _____

1. Expand and simplify: $8(p-2)$

2. Expand and simplify: $-6(q+4)$

3. Write an algebraic expression for: the total of a \$25 membership fee and \$4 for each visit v

4. Simplify: $14m-3+2m-12$

5. Expand and simplify: $5(2r-3)-r$

6. A garden is shaped like a rectangle. Its length is $2x+3$ metres, and its width is $x-1$ metres. Write and simplify an expression for the perimeter.

7. Identify the coefficient of x , the coefficient of y , and the constant in: $5x-2y+18$

8. Simplify: $6a+9b-4a-3b$

9. Expand and simplify: $-3(4s-1)+2s$

10. Write an algebraic expression for: eleven less than six times a number j

11. A triangle has side lengths $3n+1$, $n+5$, and $2n-4$ centimetres. Write and simplify an expression for its perimeter.

12. A student writes: $4x+6=10x$. Explain whether the student is correct.

13. A student expands: $-4(2y-3)$ as $-8y-12$. Identify the wrong move and write the correct expansion.

14. Non-Routine: A student is organizing a school event. Renting equipment costs \$40. Each table costs \$6 to rent. Write an expression for the total cost of renting t tables. Then explain what the fixed number and the variable term represent.

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15. Non-Routine: A student says that the expression $4(2x+3)-5x$ cannot be simplified because it contains both brackets and unlike terms. Is the student correct? Explain what can be simplified and what cannot, then write the expression in simplified form.
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