Algebra I Unit 1 Test Review
Translating and Simplifying Expressions

I. Translate the expressions.

1. Translate the word phrase, 2 less than 4 times a number, into an algebraic expression.
   a. 2 – 4n  
   b. 4 – 2n  
   c. 2n – 4  
   d. 4n – 2

2. Give one way to write the algebraic expression \( \frac{6}{x} \) in words.
   a. the quotient of \( x \) and 6  
   b. the quotient of 6 and \( x \)  
   c. the difference of 6 and \( x \)  
   d. the difference of \( x \) and 6

3. For her book club, Sharon reads for 45 minutes each day. Write an expression for the number of minutes she reads in \( d \) days.
   a. \( \frac{45}{d} \)  
   b. \( 45 + d \)  
   c. \( 45 - d \)  
   d. \( 45d \)

4. Give two ways to write the algebraic expression (you must use the word “than” at least once for a and b)
   a. \( 2m + 4 \) \hspace{1cm} \text{and} \hspace{1cm} \text{___________________________} \hspace{1cm} \text{___________________________} \\
   b. \( x - 1.9 \) \hspace{1cm} \text{and} \hspace{1cm} \text{___________________________} \hspace{1cm} \text{___________________________}

II. Evaluate the expressions. Show ALL STEPS AND WORK.

5. \( b - a \), for \( b = 7 \) and \( a = -5 \)  
6. \( 3m - n \) for \( m = -5 \) and \( n = -8 \)

7. \( -2m^2 + 4 \) for \( m = -3 \)  
8. \( 8 + mn \) for \( m = 5 \) and \( n = -3 \)
III. Simplify the algebraic expressions.

9. \(-7x^2 + 9x + 12 - x^2 - 10x\)

10. \(9x + 12y - 10x + 5y\)

11. \(-4.3x - 5x\)

12. \(-8(-2x - 3) + 8(x + 1)\)

13. Find the perimeter of the polygon below. Show all work.

IV. Writing Equations.

14. An electrician charges $65 just to come out to your house plus $50 an hour for the actual work. Write an equation where \(C\) is the total cost and \(h\) is hours?

15. Corey hires a band to play for his birthday. The band charges a flat fee of $250, plus $100 per hour. Write an equation that best describes the cost, \(c\), of the band in relation to the time, \(t\), that they play?