ALGEBRA I
MR. HALMI

NAME:
BLOCK:

WORD PROBLEMS TEST
75 POSSIBLE POINTS

Questions 1 – 9 are worth 5 points each. To receive full credit, you must:

- Define a variable *(1 point)*
- Set up an algebraic equation *(1 point)*
- Solve the equation *(1 point)*
- Show all work *(1 point)*
- Include an answer in a complete sentence *(1 point)*

1. Six more than one third of a number is 23. What is the number?

2. Find three consecutive integers which have a sum of 27.

3. The sum of four consecutive odd integers is 72. What are the integers?

4. Sam is a terrible waiter at The Olive Garden on Peach Street. Last week, he dropped 58 plates of spaghetti. His worst day was Tuesday, when he dropped 19 plates. How many plates did he drop the rest of the week?

5. Wendy bought 6 rolls of film for a trip to Mexico with her Spanish class. She paid $22.20. How much does one roll of film cost?

6. Chris runs a yard work service. He charges a base rate of $15, plus an additional $0.70 per hour. He charged Mrs. Williams $19.20. How long did he work for Mrs. Williams?

7. Dan wants to buy plenty of extra pencils because he's always losing them. He is going to buy 3 pencils for each class he is taking, plus an extra 12 pencils. To do this, he will need to buy a total of 36 pencils. How many classes is he taking?

8. The longest side of a triangle is twice as long as the shortest side. The third side is 3cm longer than the shortest side. If the perimeter of the triangle is 19cm, what is the length of each side?

9. Nathan and John are reading *Romeo and Juliet* for their English class. Nathan already read 36 pages over the summer. John forgot and didn't read any. Now that school has started, Nathan reads 12 pages every night. John reads 18 pages every night. After how many nights will they be on the same page?

Multiple Choice – Select the best answer to each question. *(2 points each)*

10. The length of a rectangle is 3 times longer than the width. The perimeter is 24cm. Let x = the width of the rectangle. Which equation could be used to determine the correct value of x?

    A. $3x + x + 3x + x = 24$
    B. $3x + 2 = 24$
    C. $3x = 24 - 2x$
    D. $(3 + x) + x + (3 + x) + x = 24$

11. What is the best first step in the solution to the equation $7x - 3 = -3(x - 3)$?

    A. Add like terms.
    B. Add three to both sides.
    C. Divide both sides by 7.
    D. Use the distributive property.

Short Answer – Write the answer to each question on the line provided. *(2 points each)*

12. Which classification of numbers includes $\frac{2}{3}$, -4 and 0, but not π ? _____

13. What is done first in the order of operations? _____

Ordering Numbers – Use < or > to make each statement true. *(1 point each)*

14. -0.5 ____ -0.25

15. $\frac{3}{1}$ _____ $\frac{1}{3}$

Absolute Value – Simplify each expression. *(1 point each)*

16. $-|17 - 5|$

17. $\left|\frac{3}{2}\right|$

Solving Equations – Solve each equation for the variable. Show your work. *(3 points each)*

18. $-3(y + 4) = 15$

19. $6q + 13 = 4q - 7$

20. $3(5s + 2) + 2s = 23$

21. $\frac{x}{6} = -7$

Substitution – Use substitution to evaluate these expressions. Show your work.

Let $a = 8$, $b = -2$, and $c = \frac{1}{2}$. *(3 points each)*

22. $5(a - b) + c$

23. $\frac{b + 2 + a}{-8}$