



# Jakarta International School

8<sup>th</sup> Grade – AG1

## **Practice Test - Blue**

### Unit 1: Solving Linear Equations

Name: \_\_\_\_\_

Date: \_\_\_\_\_

Score:

28

**Goal 2:** Use problem solving processes and skills to solve real world problems.

**Clearly show required work and follow direction to earn full credit!!!**

**For each problem, complete the 4 step problem solving process.**

(4 points per problem - 1 point for each step)

1. Define a variable expression for all unknowns
2. Write an equation for the situation
3. Find the solution and write your answer in a meaningful way
4. Check your solution with the facts from the problems

Demonstrate your skill at applying the 4-step problem solving process by solving the following word problems. Show all steps and work.

1. Bill is twice as old as Julie will be in four years. The sum of their ages is 20. How old is each of them now?
  
  
  
  
  
  
  
  
  
  
2. The quotient of two numbers is 4 and their difference is 39. What is the smaller number of the two?

3. **Tiffany's Triumphs:** Tiffany plays first board for her middle school chess team. Since she joined the team last year, she has won 27 of 51 tournament games. That's a winning percentage of about 53%. Winning a lot of matches in a row is pretty unlikely. Let's say that Tiffany gets hot and wins two out of every three games she plays. How many more games will Tiffany have to play before she has a winning percentage of 60%?



4. Two trains started from the same point. At 11 p.m., the first train traveled East at the rate of 50 mph. At 9:00 a.m. the next morning, the second train traveled West at the rate of 140 mph. At what time were they 1260 miles apart?

5. Two grocery stores sell rice in bulk. The first charges \$.55 per pound. The second charges \$.75 per pound for up to 3 pounds and \$.40 per pound for anything over 3 pounds.



- A. For what number of pounds is the total cost at each store the same. (3 points)

- B. When is it better to buy from the first store? When is it better to buy from the second? (1 point)

6. Nina and Drew mow lawns. Together they work at most 10 hours each week. Drew always works 4 hours a week. If  $h$  represents the number of hours Nina works each week, which inequality describes the situation? Why? (2 points)



- a.  $h+4 < 10$   
b.  $h+4 \leq 10$   
c.  $h+4 > 10$   
d.  $h+4 \geq 10$

Answer:

Why:

7. Washington Junior High School Student Association hopes to sell 500 yearbooks and make a profit of at least \$1200. Write, solve, and graph an inequality to find and demonstrate how much money they need to make on each book to realize their goal?  
(3 point)



8. One long distance company offers a plan such that each minute costs \$.10 and each call has a \$.10 service charge. Write and solve an inequality to find the maximum number of minutes you can talk for \$3.00. (3 points)

