

Name: _____

Date: _____

Linear Word Problems Algebra 1

This lesson will demonstrate the use of previously learned algebraic techniques in solving real world linear scenarios. The key to doing all of these problems is to **read the problem as many times as necessary to understand what is being asked.**

Exercise #1: At a concert, Nabila purchased three t-shirts and a concert program that cost \$15. In total, Nabila spent \$90. Find the cost of a single t-shirt if they all had the same price.

STEPS IN SOLVING WORD PROBLEMS WITH LINEAR ALGEBRA

1. Define the variable that you want to find with a let statement.
2. Create an equation that expresses the information given in the problem's scenario.
3. Solve your equation using algebraic methods.
4. Consider if your answer is reasonable.
5. Label your solution appropriately.
6. Check your answer with the conditions given in the problem.

Exercise #2: Oberon Cell Phone Company advertises service for 3 cents per minute plus a monthly fee of \$29.95. If Parker's phone bill for October was \$38.95, find the number of minutes he used.

Exercise #3: Quin was shopping at a used book sale where all books were selling at the same price. He bought six science fiction books and eight mysteries. He also decided to buy a poster for \$2.40. In total, Quin spent \$8.70. What was the price of a single book?

Exercise #4: Rachael and Sabine belong to different local gyms. Rachael pays \$35 per month and a one-time registration fee of \$15. Sabine pays only \$25 per month but had to pay a \$75 registration fee. After how many months will Rachael and Sabine have spent the same amount on their gym memberships?

Exercise #5: While on vacation, Talisha won a lot of tickets at two arcades on the boardwalk she was visiting. The first arcade charges \$1 to cash in the tickets and gives you 12 cents back on each ticket won, while the second arcade gives you 10 cents back on each ticket and no fee to cash in. In order for Talisha to make an equal profit from each arcade, how many tickets must she have won?

Exercise #6: Ulani has an older sister and a younger sister. Her older sister is one year more than twice Ulani's age. Ulani's younger sister is three years younger than she is. The sum of their three ages is 26. Find Ulani's age.

Exercise #7: A sale at a local grocery store was offering all fruit at the same price per pound. Valencia bought 1.5 pounds of peaches and 3.5 pounds of plums. She used a 50 cents off coupon and ended up spending exactly \$5.00. What was the price per pound for the fruit that Valencia bought?