Name _____

Linear Equation Word Problems

1. Rachel is planning a cross-country road trip. She wants to maintain an average speed of 65 mph, including breaks. If she takes two 45-minute breaks during her 10-hour drive, how far can she travel?

2. A telecommunications company offers two phone plans. Plan A charges a $30 monthly fee and $0.05 per minute, while Plan B has a $20 monthly fee and $0.10 per minute. For what number of minutes is Plan A cheaper than Plan B?

3. A landscaping company charges $50 per hour for labor and $2 per square foot for materials. If they charge a total of $1000 for a job that takes 8 hours and requires 300 square feet of materials, how much do they charge per square foot for materials?

4. A store sells two types of shirts. Type X costs $20 each, and Type Y costs $30 each. If the store sold a total of 60 shirts for $1800, how many of each type did they sell?

5. Jennifer is investing in stocks. She invests $5000 in Company A, which has an annual return rate of 5%, and $3000 in Company B, which has an annual return rate of 8%. If her total annual return is $340, how much did she invest in each company?

6. A taxi company charges a $5 base fare plus $2.50 per mile. If a passenger's fare is $30, how many miles did they travel?

7. A company produces and sells backpacks. The total cost (in dollars) to produce x backpacks is given by the equation $C(x)=500x+2000$, where x is the number of backpacks produced. If each backpack sells for $40, how many backpacks must be sold to make a profit of $5000?

8. A construction company is building a rectangular swimming pool. The cost of the pool's base is $5000, and each foot of fencing costs $30. If the total cost is $15,000, and the length is twice the width, what are the dimensions of the pool?

9. A shipping company charges $5 per package plus a $50 handling fee. If the total cost for shipping x packages is $250, how many packages were shipped?

10. A water tank is being filled by two pipes. Pipe A can fill the tank in 4 hours, while Pipe B can fill it in 6 hours. If both pipes are open, how long will it take to fill the tank?