The purpose of this worksheet is to practice setting up and solving linear equations.

1. Juan scored 5 points higher on his second exam and 13 points higher on his third exam than he did on his first exam. If his mean (average) score on the three exams was 90, what did he score on the first exam?

   **Solution:** 84

2. A locksmith charges $40 plus $28 for each lock installed. How many locks can be replaced for $236?

   **Solution:** 7 locks

3. An executive invests $22,000, some at 7% and some at 6% annual interest. If he receives an annual return of $1,420, how much is invested at each rate?

   **Solution:** $10,000 invested at .07% and $12,000 invested at .06%

4. A merchant increases the wholesale cost of a washing machine by 30% to determine the selling price. If the washer sells for $588.90, find the original price.

   **Solution:** $453
5. Some bank robbers leave town, speeding at 70 mph. Ten minutes later, the police give chase, traveling at 78 mph. How long will it take the police to overtake the robbers?

**Solution:** 97.5 minutes

6. Of the 800 tickets sold to a movie, 480 were full-price tickets costing $3 each. If the gate receipts were $2,080, what did a student ticket cost?

**Solution:** $2

7. An empty swimming pool can be filled in 10 hours. When full, the pool can be drained in 19 hours. How long will it take to fill the empty pool if the drain is left open? Give the exact solution, then approximate to the nearest hour.

**Solution:** \( \frac{190}{9} \) hours, or approximately 21 hours

8. If I can mow the lawn in 4 hours with a push-mower, and my neighbor can mow the lawn in 2 hours with a lawn tractor, how long will it take to mow the lawn if we work together?

**Solution:** \( \frac{4}{3} \) of an hour, or 1 hour and 20 minutes