Linear Functions Applications

1. In 2005, Joe planted a tree that was 3 feet tall. In 2010, the tree was 13 feet tall. Assuming the growth of the tree is linear, what year will the tree be 19 feet tall?

2. In 1995, a public library had 16,000 books on its shelves. In 1999, the library had 19,000 books. Assuming a linear increase, how many books will the library have in 2005?

3. Monica feeds her dog the same amount of dog food each day from a very large bag. On the 3rd day, she has 44 cups left in the bag, and on the 11th day she has 28 cups left. What day will she run out of dog food?

4. Wendy bought a car for $25,000 and its value depreciated linearly. After 3 years, the value was $21,250. What was the amount of yearly depreciation?

5. Jamal's parents give him $20 to spend at camp. Jamal spends the same amount of money on snacks each day. After 4 days, he has $12 left. Write a linear equation to represent this situation.