

Chapter 7 Project

A Linear Vacation

An activity to demonstrate the importance of solving linear equations in real life.

The process of finding ways to use math to solve real-life problems is called **mathematical modeling**. In the following activity you will be using linear equations to model some real-life scenarios that arise during a family vacation.

For each question, be sure to write a linear equation in one variable and then solve.

1. Penny and her family went on vacation to Florida and decided to rent a car to do some sightseeing. The cost of the rental car was a fixed price per day plus \$0.29 per mile. When she returned the car, the bill was \$209.80 for three days and they had driven 320 miles. What was the fixed price per day to rent the car?
2. Penny's son Chase wanted to go to the driving range to hit some golf balls. Penny gave the pro-shop clerk \$60 for three buckets of golf balls and received \$7.50 in change. What was the cost of each bucket?
3. Penny's family decided to go to the Splash Park. They purchased two adult tickets and two child tickets. The adult tickets were $1\frac{1}{2}$ times the price of the child tickets and the total cost for all four tickets was \$85. What was the cost of each type of ticket?
4. Penny's family went shopping at a nearby souvenir shop where they decided to buy matching T-shirts. If they bought four T-shirts and a \$2.99 bottle of sunscreen for a total cost of \$54.95, before tax, how much did each T-shirt cost?
5. Penny and her family went out to eat at a local restaurant. Three of them ordered a fried shrimp basket, but her daughter Meghan ordered a basket of chicken tenders, which was \$4.95 less than the shrimp basket. If the total order before tax was \$46.85, what was the price of a shrimp basket?
6. While on the beach, Penny and her family decided to play a game of volleyball. Penny and her son beat her husband and daughter by two points. If the combined score of both teams was 40, what was the score of the winning team?