2020 Tesla Roadster Loan – Teacher Notes



The November issue of Automobile Magazine reports that the 2020 Tesla Roadster was unveiled in California. The all-electric vehicle can go from 0 to 60 miles per hour in 1.9 seconds and some claim it is the fastest production vehicle ever made. With a base price of $200,000, customers can reserve a Tesla Roadster by placing a $50,000 deposit, bringing the total cost of the car to a quarter of a million dollars!

*Source*: <http://www.automobilemag.com/news/new-tesla-roadster-unveiled/>

Aisha loves the Roadster, and really really wants one! Her rich great aunt agrees to give her the $50,000 deposit and Aisha has a good job that pays very well.

1. If she lives at home, she will be able to save a $1450 each month for the Roadster. If she pays the deposit on January 3, 2018, and agrees with the Tesla salesman that she will pick up the Roadster in January 2020, how much will she have saved for the car?

Aisha knows she won’t have the entire purchase price by January 2020, so she goes to her bank for a car loan. The bank agrees to give her a loan if she will pay them interest and make monthly payments of $1640 for 9 years.

1. Write an equation that will help Aisha find the total amount of money she has paid for her Roadster each month since taking out the loan. Explain why you chose this type of equation.

Deposit + 2-years of savings = $84,800

Since each monthly payment is constant at $1640, a linear model will be best for this situation. The equation will determine the amount that Aisha has paid for her Roadster, including the deposit and savings plus the loan payments paid to the bank.

1. When will Aisha have paid $250,000 for her Roadster? Is she done making payments to her bank? Explain your answer.

In about 101 months, or 8 years and 5 months, Aisha will have spent $250,000 on her car. She will still have 7 more monthly payments to make on her car. This must be for the interest charged by her bank.

1. How much did Aisha pay for her car at the end of her 9-year loan?

monthly payments

Aisha paid $261,920 for her Tesla Roadster.

1. What interest rate did Aisha’s bank charge for her car loan?

Amount borrowed from the bank

Loan payments made to the bank

Additional money paid for the Tesla in interest

Aisha paid 6.7% interest on her car loan.

1. Do you think Aisha should buy the Roadster? Why or why not?

Answers vary. Look for sense-making.