

Math for Financial Literacy ©2013

Chapter 10: Automobiles—Checkpoint Solutions

Checkpoint 10.1

1. What will be the final price of Kristopher's new car?

Answer: \$20,400

2. Kristopher must pay 8.25% sales tax, a license fee of \$75, and a title transfer fee of \$40. What is the price of the car, including TT & L?

Answer: \$22,198

3. Kristopher qualifies for either a three-year car loan at 5.9% APR, with monthly payments of \$674.30, or a five-year car loan at 4.75% APR, with monthly payments of \$416.37. How much more interest will Kristopher pay for the five-year car loan than the three-year car loan?

Answer: \$707.40

4. Tasha purchased a new car five years ago for \$31,450. She sold it this year for \$9,950. Calculate the average annual depreciation and the depreciation rate for Tasha's car.

Answer: average annual depreciation = \$4,300 per year
depreciation rate = 13.7%

5. Mona and her auto dealer have negotiated a price of \$29,200 for a new sport-utility vehicle (SUV). The dealer presents Mona with two options. She can lease the SUV for \$349 per month for 36 months and purchase the SUV at the end of the lease for the residual value of \$19,697. Or, Mona can purchase the SUV with a down payment of \$4,000 and monthly payments of \$730 for 36 months. What is the total cost of purchasing the SUV under each plan? Which plan is less expensive?

Answer: The purchase plan is \$1,981 less expensive than the lease plan.

Checkpoint 10.2

1. Prem owns a car with a fuel efficiency of 26 miles per gallon. She drives about 11,000 miles per year, and the average cost of gasoline where she lives is \$3.80 per gallon. Calculate Prem's annual fuel costs.

Answer: \$1,607.40

2. Crystal owns a van with a fuel efficiency of 14 miles per gallon. She drives about 12,000 miles per year, and the average cost of gasoline where she lives is \$4.10 per gallon. Calculate Crystal's annual fuel costs.

Answer: \$3,513.70

3. Hakim drives a truck with a fuel efficiency of 21 miles per gallon. He drives about 15,000 miles per year, and the average cost of gasoline where he lives is \$3.90. The truck manufacturer recommends an oil change every 5,000 miles, which costs \$51.50, including sales tax and environmental fees. Calculate the total annual cost of fuel and maintenance for Hakim's truck.

Answer: \$2,939.10

4. If Annemarie decides to pay quarterly, calculate her quarterly auto insurance payment.

Answer: \$208.50

5. If Annemarie decides to pay monthly, calculate her monthly auto insurance payment.

Answer: \$71.83