# CHAPTER 2 PROJECT

## Purchasing a New Car

There are many financing options for new car buyers, and sometimes comparing offers between dealerships can be confusing. Newspaper and television ads often seem much more complicated once the fine print is read. If you decide to purchase a new car, be sure to get all the details and remember that the dealerships might be negotiating on different variables. To do a thorough comparison, you must take all the variables into consideration.

Assume you have decided to purchase a new car with a manufacturer's suggested retail price (MSRP) of $22,000, including all the options you have selected. There are two local dealerships that carry this car, and you have collected offers from both of them. You plan to use the trade-in value of your old car as a down payment. The dealership offers and the assessed values for your car are listed in the table below.

| Dealership | Factory MSRP | Dealer Incentive | Trade-in Value | Financed Amount | Term of Loan | Annual Rate of Interest |
|---|---|---|---|---|---|---|
| City Motors | $22,000 | $1200 | $2500 | $18,300 | 48 months | 11% |
| City Motors | $22,000 | $1000 | $2500 | $18,500 | 36 months | 4.5% |
| City Motors | $22,000 | $1000 | $2500 | $18,500 | 48 months | 7.9% |
| Arrow Imports | $22,000 | $900 | $3000 | $18,100 | 48 months | 9.9% |
| Arrow Imports | $22,000 | $500 | $3000 | $18,500 | 24 months | 3.9% |

**1.** Your monthly payment can be calculated using the formula

$$P = A\left[\frac{1-(1+r)^{-n}}{r}\right]^{-1},$$

where $P$ represents your payment, $A$ is the financed amount, $r$ is the monthly interest rate in decimal form ($r$ = annual rate / 12), and $n$ is the duration of the loan in months. Compute the monthly payment for each of the scenarios above.

**2.** What is the total cost of the car for each of the scenarios?

**3.** How much interest is paid in total for each of the scenarios?

**4.** Which of these scenarios is the best for you? What is best for you may not be what is best for everyone, so explain the reasons for your selection.