9-1 Computing the Sticker Price of a New Vehicle
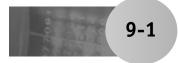
A new vehicle is required by law to have a **sticker price** on its window. Included in this price are: the **base price,** which includes the cost of the engine, the chassis, and any other standard equipment; **options,** which are extras for convenience, safety, and appearance; and the **destination charge,** which is the cost of shipping the vehicle from the manufacturer to the dealer.

Example

Find the sticker price.

Marco Hamner is shopping for a new sports utility vehicle. A portion of the sticker is shown below.

Base Price	$22,950
Options:	
Automatic Transmission (AT)	750
Power Steering (PS)	275
Anti-Lock Brakes (ABS)	315
Air-Conditioning (AC)	889
Custom Interior (ITC)	442
Destination Charge	375

1. Find the options price.
   Options = $750 + $275 + $315 + $889 + $442 = $2,671

2. Find the sticker price.
   Sticker Price = Base Price + Options + Destination Charge
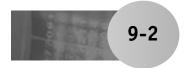 $22,950 + $2,671 + $375 = **$25,996 sticker price**

Practice

Find the sticker price.

	Vehicle	Base Price	Options	Destination Charge
1.	Minivan	$10,995	$1,775	$ 0
2.	Convertible	15,265	2,187	295
3.	Sports utility vehicle	23,799	2,819	0
4.	Sedan	9,250	1,352	358

5. Karl Schwartz is buying a new car. The base price is $17,375. Options include air conditioning for $992, fog lamps for $279, and automatic transmission for $1,584. The destination charge is $428. What is the sticker price?

6. **Standardized Test Practice** Merilyn Webster wants to buy a new convertible. The base price is $19,374. Options she wants included are air conditioning for $1,318 and power windows/door locks for $426. There is no destination charge, but her state sales tax is 6 percent of the purchase price. What is the total price she will pay for the new vehicle?
   A. $21,100.44   **B.** $21,118.00   **C.** $22,385.08   **D.** $19,374.00

9-2 Calculating the Dealer's Cost of a New Vehicle

Vehicle dealers pay less than the sticker price for the vehicles they sell. The dealer's cost is the price actually paid for a vehicle by the dealer, which is usually expressed as a percent of the sticker price.

Dealer's Cost = Percent of Base Price + Percent of Options Price + Destination Charge

Example

Find the dealer's cost.

The dealer's cost of a jeep is 92 percent of the base price, which is $22,950, and 88 percent of the options, which total $3,046. There is a destination charge of $375.

1. Find the percent of base price.
   Percent of Base Price = Base Price × Percent of Dealer's Cost on Base Price
   $22,950 × 0.92 = $21,114

2. Find the percent of options price.
   Percent of Options Price = Total Price of Options × Percent of Dealer's Cost on Options
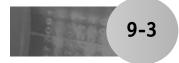 $3,046 × 0.88 = $2,680.48

3. Find the dealer's cost.
   Dealer's Cost = Percent of Base Price + Percent of Options Price + Destination Charge
   $21,114 + $2,680.48 + $375 = **$24,169.48 dealer's cost**

Practice

Find the dealer's cost for Problems 1–4.

1. Base price is $10,995 and options total $1,775. There is no destination charge. The dealer pays 85 percent of base price and 90 percent of options.
2. Base price is $15,265 and options total $2,187. The destination charge is $295. The dealer pays 89 percent of base price and 92 percent of options.
3. Base price is $23,799 and options total $2,819. There is no destination charge. The dealer pays 85 percent of base price and 90 percent of options.
4. Base price is $9,250. Options total $1,352. The destination charge is $358. The dealer pays 89.2 percent of base price and 92.8 percent of options.
5. Brad Huxter offers to pay $1,000 over the dealer's cost for a luxury coupe. The base price is $62,685 and options total $5,209. There is no destination charge. If the dealer's costs are 87 percent of the base price and 89 percent of the options, what is Huxter's offer?
6. **Standardized Test Practice** Merilyn Webster wants to buy a new sedan. The base price is $19,374 and options total $1,744. The dealer's costs are 88.5 percent of base price and 92.5 percent of options. There is a destination charge of $325. If Webster offers the dealer $400 over the estimated dealer's costs, what is her offer?
   A. $19,484.19   **B.** $19,084.19   **C.** $18,759.19   **D.** $19,774

9-3 Determining the Average Retail Price of a Used Vehicle

Used vehicle dealers usually advertise prices at rates higher than they expect you to pay. To help you make wise decisions as to how much you should actually pay, **used vehicle guides** are published monthly. These booklets give the average prices of vehicles purchased from dealers during the previous month. The average retail price includes the average retail value and additional options, with deductions for lack of options and excessive mileage on the vehicle.

Example

Find the average retail price.

Marco Hamner is shopping for a used jeep, which is advertised for $16,284. It is 3 years old, has been driven 37,521 miles, and has no air conditioning. The used vehicle guide indicates an average retail value of $16,725. The guide also states that $950 should be deducted for lack of air conditioning and $350 should be deducted if the mileage is between 35,001 and 40,000.

Find the average retail price.

Average Retail Price = Average Retail Value + Additional Options − Options Deductions − Mileage Deduction

$16,725 − $950 − $350 = **$15,425 average retail price**

Practice

Find the average retail price for Problems 1–4.

1. Two-year old minivan: Average retail value = $8,975; add $1,250 for all-wheel drive; add $750 for air conditioning; deduct $500 for manual transmission.
2. One-year old convertible: Average retail value = $14,876; add $300 for CD player; deduct $550 for excessive mileage.
3. Three-year old sports utility vehicle: Average retail value = $18,785; add $1,300 for four-wheel drive; deduct $750 for no air conditioning; deduct $575 for excessive mileage.
4. Five-year old sedan: Average retail value = $6,758; add $450 for sunroof; deduct $500 for no air conditioning; add $375 for low mileage.
5. **Standardized Test Practice** Brooke Allen owns a 6-year old sports coupe with an average retail value of $12,384. She has kept it in her garage and it only has 2,327 miles on the odometer. The used vehicle guide allows a value increase of $1,500 for such low mileage. It also states that $500 should be added for a power sunroof, and $800 should be deducted for manual transmission. A neighbor offers to pay her $1,000 over the average retail price for her vehicle. How much is the neighbor offering?
   A. $13,384   **B.** $13,584   **C.** $14,584   **D.** $14,884

Using Tables to Compute the Annual Premium on Vehicle Insurance

9-4

Liability insurance, comprehensive insurance, and **collision insurance** protect you financially if you are in an accident, your vehicle is stolen, or your vehicle is damaged by fire, vandalism, and so on. Your insurance company might offer bodily injury limits of 25/100, which means it will pay up to $25,000 to any one person injured and up to $100,000 if more than one person is injured. Insurance has a **deductible clause,** which states an amount you have to pay before the insurance company pays. Your annual base premium and annual premium depend on factors such as the amount of insurance you want and your driver-rating factor.

Example

Find the annual base premium and the annual premium. (Use the tables on page 178 to complete the problems.)

Marco Hamner is the principal owner of his vehicle. His driver-rating factor is 1.80. His insurance includes 25/100 bodily injury and $25,000 property damage. His vehicle is in age group B and insurance-rating group 11. He has $50-deductible comprehensive insurance.

1. Find the annual base premium.
   Annual Base Premium = Liability Premium + Comprehensive Premium + Collision Premium
   $218.80 + $77.60 + $0.00 = **$296.40 annual base premium**
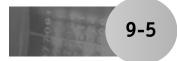
2. Find the annual premium.
   Annual Premium = Annual Base Premium × Driver-Rating Factor
   $296.40 × 1.8 = **$533.52 annual premium**

Practice

Find the annual base premium and the annual premium. (Use the tables on page 178.)

1. Driver-rating factor 1.50; Age, rating group is C, 12; Coverage: 100/200 bodily injury; $50,000 property damage; $50-deductible comprehensive; $50-deductible collision.
2. Driver-rating factor 1.70; Age, rating group is A, 11; Coverage: 25/100 bodily injury; $25,000 property damage; $50-deductible comprehensive; $50-deductible collision.
3. Driver-rating factor 2.40; Age, rating group is B, 14; Coverage: 100/300 bodily injury; $100,000 property damage; $50-deductible comprehensive.
4. Driver-rating factor 3.00; Age, rating group is D, 10; Coverage: 25/50 bodily injury; $100,000 property damage; no collision or comprehensive.
5. **Standardized Test Practice** Brooke Allen's sports car is used primarily for pleasure. Because she keeps it in the garage most of the year, she keeps minimal insurance coverage of 25/50 bodily injury and $25,000 property damage. She also has $50-deductible comprehensive insurance. Her driver rating is 1.30 and the vehicle is classified as C, 15. What is her annual premium?
   A. $427.96   **B.** $813.80   **C.** $329.20   **D.** $626.00

Computing Total Cost per Mile of Operating and Maintaining a Vehicle

9-5

Other costs involved in operating and maintaining a vehicle include **variable costs,** such as gasoline and tires, that increase the more you drive; **fixed costs,** such as insurance and registration fees, that remain about the same no matter how many miles you drive; and **depreciation,** a decrease in the value of your vehicle because of its age and condition.

Example

Find the cost per mile.

Last year, Marco Hamner bought a used jeep for $15,550. During the year he drove it 12,272 miles. A guide estimates its worth today at $14,375. Insurance costs him $533.52. His license and registration fees were $127.50. He estimates his annual variable costs at $1,250.

1. Find the depreciation.
    $15,550 − $14,375 = $1,175 depreciation

2. Find the total annual cost.
    $533.52 + $127.50 + $1,175 + $1,250 = $3,086.02 annual cost

3. Find the cost per mile.
    Cost per Mile = Annual Cost ÷ Number of Miles Driven
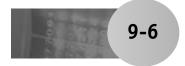 $3,086.02 ÷ 12,272 = **$0.25 per mile**

Practice

Find the total annual cost and cost per mile. Round to the nearest cent.

	Annual Variable Costs	Annual Fixed Costs	Total Annual Cost	Miles Driven	Cost per Mile
1.	$1,500.00	$ 900.00	a.	10,000	b.
2.	1,385.00	1,425.00	a.	12,500	b.
3.	1,854.00	2,192.00	a.	15,250	b.
4.	1,386.00	872.25	a.	9,127	b.

5. Diane Warner paid $14,250 for her sports car when she bought it last year. She drove it 9,884 miles during the first year, keeping careful track of all her expenses. Her variable costs included $950 for gasoline, $285 for maintenance and repairs, and $115 for parking. Her fixed costs included $627 for insurance and $91.50 for license and registration. If her car's present value is estimated at $12,995, what was her cost per mile?

6. **Standardized Test Practice** Alexa Robbins and her roommate agree to share the annual cost of operating her new car. When she bought it one year ago, it cost her $20,350. It is now estimated to be worth $18,175. During the year they drove it 11,285 miles. They had fixed costs totaling $1,378 and variable costs totaling $937. What was the annual cost per person to operate the vehicle?

    A. $4,490   **B.** $2,245   **C.** $0.40   **D.** $0.20

9-6 Calculating the Total Cost of Leasing a Vehicle

When you **lease** a vehicle, you make monthly payments on it, but you do *not* own it. In essence, you are borrowing the car and paying for its use. When the lease period expires, you must return the car to the leasing company or you may purchase it. With a *closed-end lease,* you make a specified number of payments, return the vehicle, and owe nothing. With an *open-end lease,* you have the option to buy the vehicle at the end of the lease period for its *residual value,* which is the value of the vehicle at the end of the lease period.

Example

Find the total lease cost.

Marco Hamner decides to lease a jeep rather than buy one. He puts down a deposit of $3,000 and agrees to pay $279 per month for 48 months. In addition, he pays a title fee of $95 and a license fee of $42.

Find the total least cost.

Total Lease Cost = (Number of Payments × Amount of Payment) + Deposit + Title Fee + License Fee

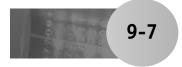(48 × $279) + $3,000 + $95 + $42 = **$16,529 total lease cost**

Practice

Find the total lease cost.

	Number of Payments	Amount of Payment	Total of Payments	Deposit	Title Fee	License Fee	Total Lease Cost
1.	24	$259	a.	$ 500	$15.00	$50.00	b.
2.	36	179	a.	985	25.00	65.00	b.
3.	48	218	a.	1,575	37.50	77.25	b.
4.	60	329	a.	1,885	29.75	88.62	b.

5. Diane Warner leased a sports car for $289 per month for 36 months. She paid a deposit of $2,750, a license fee of $118, and a title fee of $22.50. What is the total lease cost?

6. Brad Huxter leased his sedan for $229 per month for 60 months. He paid a deposit of $1,000, a title fee of $30, and a license fee of $88. The lease stipulated that any mileage over 50,000 would be charged at $0.12 per mile. If the odometer read 53,986 at the end of the lease, what was the total cost of leasing the sedan?

7. **Standardized Test Practice** Shandra Vance has an open-end lease for a new convertible. The lease costs $249 per month for 48 months. She paid a deposit of $2,000, a title fee of $25, and a license fee of $95. At the end of the lease she can buy the convertible for its residual value of $12,549. What is the total cost if she buys the vehicle?

   A. $11,952   **B.** $14,072   **C.** $24,621   **D.** $26,621

9-7 Determining the Cost per Mile of a Rented Vehicle

When you **rent** a vehicle, you might be charged a daily rate plus a per-mile rate, or you might be charged a daily rate with no mileage charge. Either way, you have to pay for the gasoline you use. You might also have to pay for insurance on a rented vehicle.

$$\text{Cost per Mile} = \frac{\text{Total Cost}}{\text{Number of Miles Driven}}$$

Example

Find the cost per mile to rent the vehicle.

Marco Hamner rented a sedan for four days at $35 per day plus $0.225 per mile. He drove it 379 miles and spent $16.85 on gas.

1. Find the total cost.
   ($35 × 4) + ($0.225 × 379) + $32.85 = $258.13

2. Find the total cost per mile.
   Cost per Mile = Total Cost ÷ Number of Miles Driven
   $258.13 ÷ 379 = **$0.68 cost per mile**

Practice

Find the total cost and the cost per mile.

	Rental Cost	Gasoline Cost	Total Cost	Miles Driven	Cost per Mile
1.	$ 72.00	$12.17	a.	175	b.
2.	117.00	29.88	a.	289	b.
3.	159.80	34.59	a.	392	b.
4.	85.90	36.26	a.	408	b.

5. Diane Warner can rent a minivan for $24.95 per day plus $0.15 per mile, or she can rent a large van for $289 per week with no additional charge for mileage. If she plans on renting the car for 7 days and driving a total of 1,200 miles, which vehicle is a better buy?

6. Brad Huxter rents a luxury coupe while on vacation. The vehicle rents for $200 per week or $29.95 per day. Mileage is charged at a rate of $0.25 per mile with the first 500 miles free. He rents the vehicle for 10 days, drives it 865 miles, and spends $62 on gasoline. What is the cost per mile of renting the vehicle?

7. **Standardized Test Practice** Shandra Vance and her roommate decide to go on a road trip and share the cost of renting a sports car. They rent the vehicle for 5 days at $41.95 per day plus $0.28 per mile. They also purchased collision insurance for an additional cost of $8 per day. If gasoline costs them a total of $77.75 and they drive 950 miles, how much will it cost each of them to rent the sports car?

   A. $280.75   **B.** $196.85   **C.** $593.50   **D.** $296.75

9 Chapter Review

Your First Vehicle—Options

You've just received your license and you're ready to purchase your first vehicle. The possibilities are many and sometimes confusing. Should you buy a new or used vehicle? Is leasing a good choice for you? When does renting make sense? Let's use what you've learned in this chapter to compare your options.

1. A new sedan you want has a base price of $10,135. You add air conditioning for $987, a CD player for $149, and a custom interior for $1,229. There is a destination charge of $325. What is the sticker price?

2. You know the dealer hasn't actually paid the sticker price for the sedan so you bargain with him. He pays 89 percent of base price and 91 percent of options. Assuming the same prices and options as in Problem 1 above, what is the dealer's cost?

3. You make your offer. What would be a fair price for the vehicle?

4. A new vehicle is out of your price range so you look into buying a used vehicle. A 3-year-old sedan is advertised for $8,895. It has been driven 39,749 miles and has air conditioning. The used vehicle guide recommends adding $500 for the air conditioning and deducting $300 for mileage between 35,001 and 40,000. What is the average retail price of the sedan?

5. That's still a lot of money so you consider leasing a vehicle. A new sedan can be leased for $149 per month for 48 months. A $1,000 deposit is required plus there are license and registration fees of $114. There is no cost for mileage. At the end of the lease you can buy the sedan for $6,750. What is your total cost if you buy it?

6. Suppose all mileage on the leased sedan over 45,000 costs $0.10 per mile. You drive the vehicle 48,266 miles over the 4 years of the lease. What would your total cost to buy the sedan be now?

7. Now you consider renting a vehicle. A budget sedan rents for $28.95 per day. You rent it for 6 days and get additional collision insurance at $10 per day. You drive the vehicle 2,346 miles. If gasoline costs you $189.84, what is the cost per mile of renting the vehicle?