9.4

Obtain a Vehicle

Link to Prerequisite Skills
Ensure students have completed all the Prerequisite Skills questions before
proceeding with this section.

> **Warm-Up**
> 1. Without using a calculator, determine the PST charged on each amount.
>   **a)** $100   **c)** $10 000
>   **b)** $1000   **d)** $30 000
> 2 Find i, the interest rate per compounding period, and, n, the number
>   of compounding periods over the life of the investment, for an
>   investment that earns 6% compounded monthly for 5 years.
> 3. Estimate the quotient 20 000 ÷ 12.
>
> **Warm-Up Answers**
> 1. **a)** $8   **b)** $80   **c)** $800   **d)** $2400
> 2. $i = 0.05$, $n = 60$
> 3. 1650

Teaching Suggestions
Warm-Up
• Write the Warm-Up questions on the board or on an overhead. Have
  students complete the questions independently. Then, discuss the
  solutions as a class.

Section Opener
• Read the introduction aloud. As a class, discuss some of the advantages
  and disadvantages of a new car versus a used car.

Investigate
• It may not be feasible to contact car dealerships and ask the questions
  listed. Students can search for available vehicles online and in newspaper
  and magazine advertisements and think about what questions they would
  ask the vendor. The questions listed may be thought of as examples or
  as the beginning of a short brainstorming session about what questions
  should be asked.

Examples
- Have students work through the Examples as a class before proceeding to the Discuss the Concepts. Alternatively, have students complete the Examples independently or in small groups before reviewing them as a class.
- Explain that the method used in Example 1 is the same method a bank employee uses to calculate monthly loan payments.
- Students may wish to discuss leasing, what it is, and who benefits from leasing. They may wish to compare this to the advantages and disadvantages of purchasing a vehicle.

Key Concepts
- Emphasize to students that a vehicle is an expense—it loses value over time. It is *not* an asset.
- The only exception to this is the purchase of a classic car, e.g., a 1967 Mustang. This is an asset; however, it is not a "vehicle" in the everyday sense. It is likely a hobby, a showpiece, or an investment.

Discuss the Concepts
- Give students time to talk about their answers to these questions before discussing them as a class.

Practise (A)
- Encourage students to refer to the Examples before asking for assistance.
- You may wish to have students work in pairs or small groups to complete the Practise questions.
- For **question 2**, encourage students to record the display of the TVM Solver screen.

Apply (B)
- **Question 8** is a Literacy Connect. Literacy Connect questions offer the opportunity to explore literacy issues within the context of mathematics. You may wish to have vehicle trader magazines available to assist with this question. Students who do not have experience with vehicles may have difficulty with this question.

- **Question 10** links to the Chapter Problem. Remind students to keep the solution to this question handy as it may help them with the Chapter Problem Wrap-Up. Alternatively, you may wish to use this problem as a formative assessment now, or use all the parts as a summative assessment at the end of the chapter.
- **Question 12** is an Achievement Check question. It can be used as a diagnostic or formative assessment, or assigned as a small summative assessment piece. You may wish to use **BLM 9-8 Section 9.4 Achievement Check Rubric** to assist you in assessing your students.

Extend (C)
- Assign the Extend questions to students who are not being challenged by the Apply questions.

Achievement Check Answers (page 488)

12. a) $6913.50

   b) $576.13

   c) Answers may vary. Sample answer: The band should consider the cost to insure the van and the cost of fuel. They should also set money aside for repairs and maintenance on the van.

Literacy Connections
- Encourage students to record the abbreviations listed in **question 8** and their meanings. Then, have students search advertisements for other abbreviations and their meanings.

Mathematical Process Expectations

Process Expectation	Questions
Problem Solving	9, 10, 12
Reasoning and Proving	7, 10, 13
Reflecting	7, 10, 12
Selecting Tools and Computational Strategies	1–6, 9–12, 14
Connecting	7–10, 12, 13, 14
Representing	10
Communicating	7–10, 12

Ongoing Assessment
- Assess students' ability to communicate mathematically, and to justify their thinking. You may wish to use **BLM A-9 Communication General Scoring Rubric** to assist you in assessing your students.

Extra Practice
- You may wish to use **BLM 9-7 Section 9.4 Obtain a Vehicle** for remediation or extra practice.