9.2

Student Text Pages

468–475

Suggested Timing

80–160 min

Tools

- computers with Internet access
- TVM Solver
-

Related Resources

- BLM 9-4 Section 9.2 Investment Alternatives BLM 9-5 Section 9.2 Achievement
- Check Rubric

Investment Alternatives

Link to Prerequisite Skills

Students should have completed all the questions in Prerequisite Skills before they proceed with this section.

Warm-Up

1. Calculate the simple interest earned on \$1000 at 3% for each period.

c) \$90

- a) 1 year
- **b)** 2 years
- c) 3 years
- **2.** What is 7% of \$300?
- **3.** Express 22.75% as a decimal.

.....

Warm-Up Answers

a) \$30
 \$21

b) \$60

\$21

3. 0.2275

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. Ask students if they think it is realistic to retire with two million dollars. Have them suggest ways they might accomplish this goal.

Investigate

- You may wish to ask students to research mutual funds before you begin this lesson.
- Circulate while students complete the Investigate and provide help as needed.
- Encourage students' to share and compare their results with the class.

Investigate Answers (page 468)

Answers may vary. Sample answers:

Mutual Fund	One-Year Rate of Return (%)	Five-Year Rate of Return (%)	Ten-Year Rate of Return (%)
Hillsdale Cdn Performance Equity–A	5.54	17.60	17.86
Front Street Small Cap Canadian	9.31	31.42	18.34
Sun Life Sunfund (Fund A)	15.89	14.72	15.62
CIBC Energy	3.30	26.87	15.37
BMO Japanese	-7.54	3.52	-1.25
Teachers' RSP – Equity Section	19.19	11.37	12.31

- a) The Teachers' RSP—Equity Section had the greatest growth with a one-year rate of return of 19.19%.
- **b)** The BMO Japanese Fund had the least growth (the greatest loss) with a one-year rate of return of -7.54%.
- c) The rate of return on a mutual fund can vary greatly, and can even drop into negative values.
- **2.** The Sun Life Sunfund has remained steady at about a 15% rate of return over the years. The rate of return on other funds, such as the CIBC Energy fund, has been quite variable. The CIBC fund's rate of return has varied from 3.3% to 26.87%.

Mutual Fund	Ten-Year Rate of Return (%)	Value of a \$1000 Investment After 10 Years (\$)
Hillsdale Cdn Performance Equity–A	17.86	5172.07
Front Street Small Cap Canadian	18.34	5386.61
Sun Life Sunfund (Fund A)	15.62	4269.03
CIBC Energy	15.37	4177.62
BMO Japanese	-1.25	881.80
Teachers' RSP – Equity Section	12.31	3192.89

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.
- The process used to solve Examples 1 and 2 is similar to the process used in Section 9.1. Discuss with the class how investing always carries an element of risk and that investments sometimes lose value.
- Work through Example 3 carefully. Different variables are used in the TVM Solver and *N* takes on a different meaning. You may wish to refer students to the Technology Appendix in the Student Book for support using the TVM Solver.

Key Concepts

- Wealth is, most often, accumulated over time.
- Have students define wealth in their own words, then research some definitions.

Discuss the Concepts

- Give students time to record their responses before conducting a discussion.
- You may wish to assign one or more of the Discuss the Concepts questions as a journal entry.
- It may be necessary to discuss the difference between assets and liabilities. Assets increase in value over time or generate income. Liabilities decrease in value over time or cost money to maintain. Most people buy liabilities (for example, cars, computers, televisions); wealthy people buy assets.

Discuss the Concepts Suggested Answers (page 472)

- **D1.** The power of compound interest lies in earning interest on interest. The earlier you start your investments, the more time there is to accumulate interest.
- **D2.** Some investments, such as government bonds, are very safe. The government is quite stable, so it is very unlikely it would be unable to repay a bond. Other investments, such as owning shares in a new company, are risky. If the company is successful, there is a potential for significant earnings. If the company fails, the investment may be lost.
- **D3.** I am willing to take moderate financial risks. In general, I will not invest money in a risky investment unless I can afford to lose it.

Practise (A)

- Encourage students to refer to the Investigate and the Examples before asking for assistance.
- Questions 1 and 2 follow directly from questions 3 and 9 of Prerequisite Skills
- You may wish to have students complete only one of questions 3 and 4.

Apply (B)

- Ensure students understand the answer to **question 8**, **part c**), will be an approximation. Using an average growth rate will give a ballpark figure at best.
- **Question 9** is a Literacy Connect. You may wish to assign this question as a journal entry or to discuss the question as a class. Literacy Connect questions offer the opportunity to explore literacy issues in the mathematics classroom and within the context of mathematics.
- **Question 11** can be done as a small group discussion. Students can rank their answers and compare their results with those of other groups.
- For **question 12**, students can research RESPs to gain a deeper understanding of this type of investment.
- **Question 13** links to the Chapter Problem. Remind students to keep the solution to this question handy as the methods they used may help them with the Chapter Problem Wrap-Up.
- Question 15 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 9-5 Section 9.2 Achievement Check Rubric to assist you in assessing your students.

Extend (C)

- Assign the Extend question to students who are not being challenged by the Apply questions.
- **Question 16** allows students to discuss their answer with others. They can discuss the relative merits of each other's plans. There are no real right or wrong answers.

Common Errors

- Some students may fail to enter the correct value for *N* in the TVM Solver.
 For example, a common error in Example 3 is to enter *N* as 49 rather than 49 × 12.
- R_x Have students think about whether the particular investment will grow a lot or a little, then estimate the future value prior to using the TVM Solver.

Accommodations

Gifted and Enrichment—ask students to prepare a report on another form of investing, such as the stock or bond market

Spatial—prepare a page with the Examples written in a structured (not paragraph) form with the information clearly laid out for easy reference; include space to complete Examples on the page

Memory—use a word wall to assist with terminology in this chapter

Achievement Check Answers (page 475)

- 15. a) No. While young people potentially have more time to recover from a financial loss, they may also have significant financial commitments. Teens may be saving to go to college or university. Young adults may be saving to purchase a home or vehicle and may plan to start a family.
 - **b)** The ABI does not consider your tolerance for risk or potential future financial obligations.

c)	savings account at a bank	GIC's	Canada Savings Bonds	blue chip stock	mutual funds	volatile stock
	Less risk					More risk

d) Many investments with a high rate of return are risky. If younger people make more risky investments, then their earnings have the potential to be large. On the other hand, a risky investment may lose value.

Mathematical Process Expectations

Process Expectation	Questions
Problem Solving	6-8, 12-14
Reasoning and Proving	11, 16
Reflecting	11
Selecting Tools and Computational Strategies	1-10, 12-14, 16
Connecting	9, 11, 15, 16
Representing	10, 12
Communicating	9, 11, 12, 15, 16

Ongoing Assessment

- Circulate as students work through the Investigate to see how well they understand the concepts.
- You may wish to collect students' responses to the Discuss the Concepts questions to use as a formative assessment tool.

Extra Practice

• Use **BLM 9-4 Section 9.2 Investment Alternatives** for extra practice or remediation.