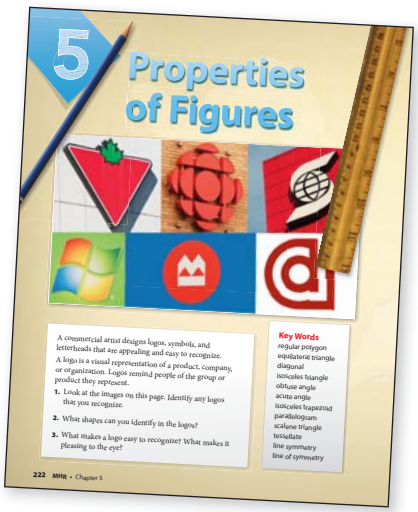
A Tour of Your Textbook

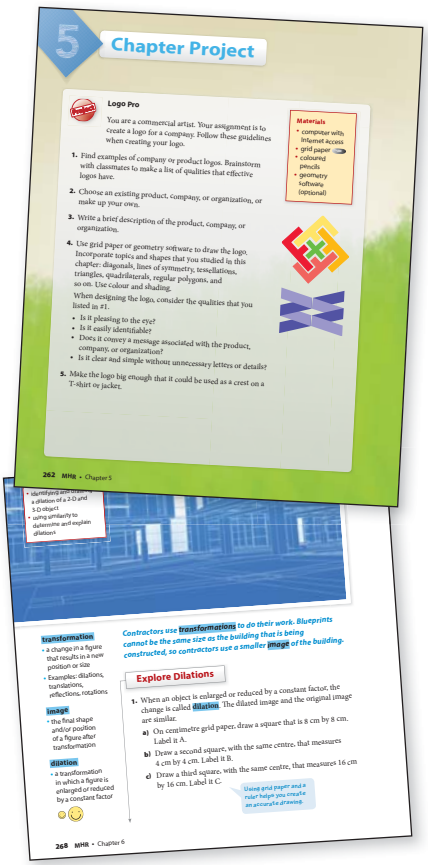
Chapter Opener

Each chapter begins with a two-page spread which introduces you to what you will learn in the chapter.



The first page includes a visual, a list of **Key Words**, and some questions.

- The visual and questions are related to the **Chapter Project**, which is at the end of the chapter.
- The **Key Words** are used throughout the chapter. The first time each Key Word is used, it is highlighted in **blue**. The word is defined in the margin. Sometimes there is a visual.



Career Link

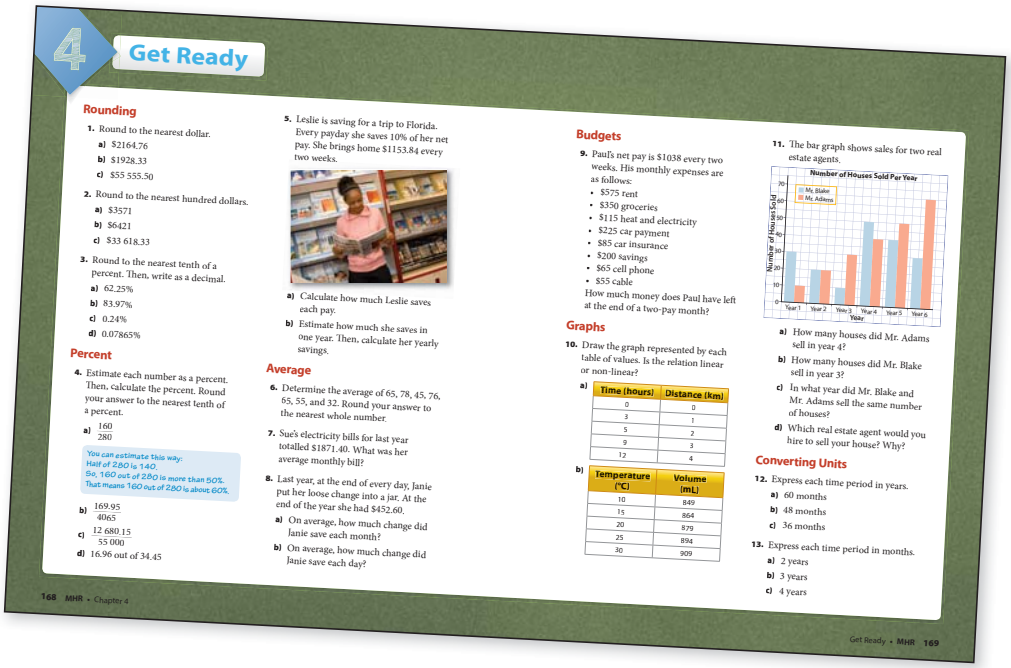
The second page of each chapter opener has a **Career Link** and a series of visuals.

- Check the Career Link for information about interesting jobs related to the math in the chapter.
- The pictures show people doing various types of work that use the math in the chapter.

Get Ready

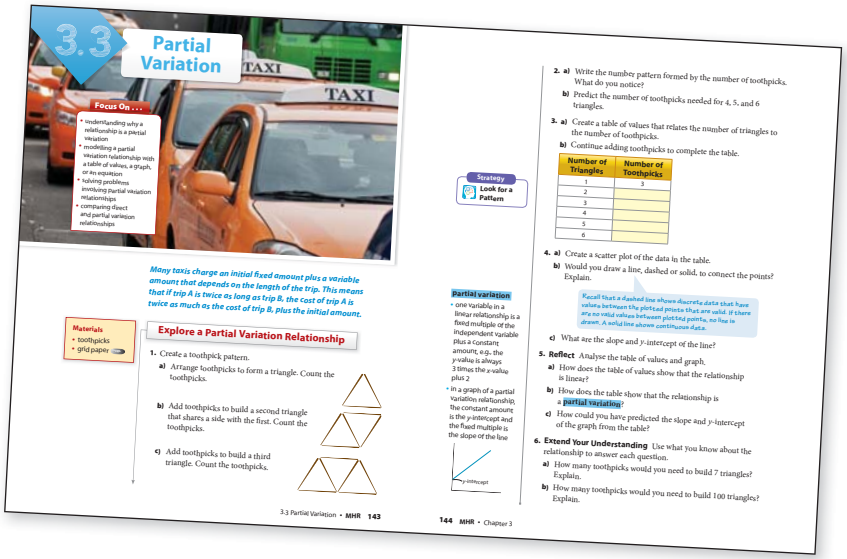
The **Get Ready** is next.

- These pages provide a brief review of skills used in the chapter.
- Some of these skills are from previous grades. Others are from previous chapters.
- You will need these skills to be successful with the chapter.



Sections

Each chapter is divided into sections. Each section starts with an **Explore**.



Explore

This activity is designed to help you build an understanding of the new concept. The activity is often related to the opening visual and introductory text in the section.

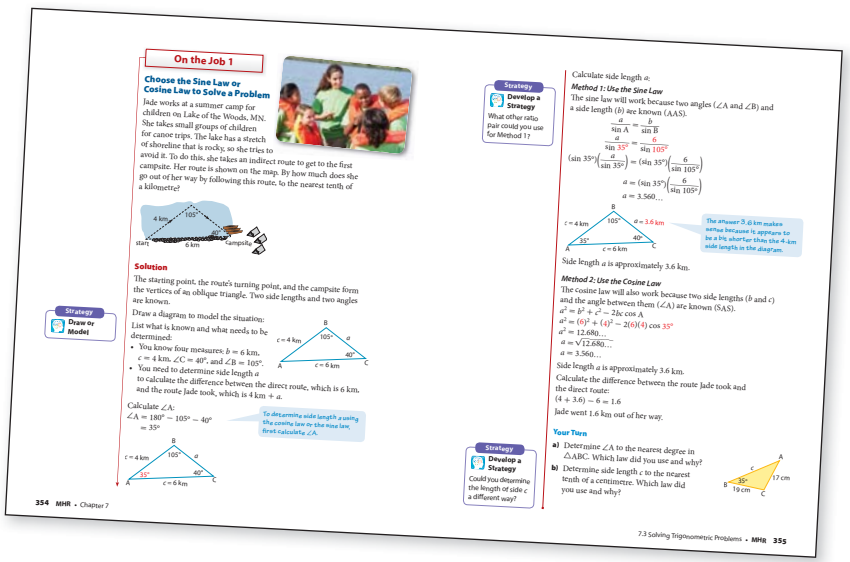
The **Reflect** question at the end of each Explore helps you explain what you learned from the activity.

There may be one or more **Extend Your Understanding** questions. These often connect the math skill to a way that people use it in their job or in their lives.

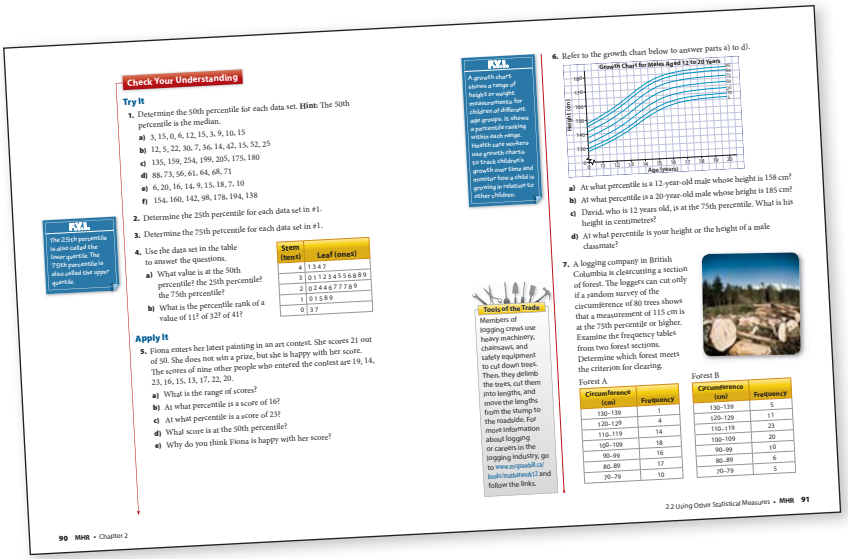
On the Job

One or more **On the Jobs** follow the **Explore**. These demonstrate how to use the concept from the Explore.

- Each On the Job starts with a problem. These problems come from everyday life or work experiences.
- The **Solution** may show one or more ways to solve the problem. One method may make more sense to you than another. Or, you can develop your own method.
- Notes in a speech bubble provide tips for solving the problem.
- Calculator key sequences are shown in gray. You may need to check that your calculator uses the same sequence.



The On the Job ends with a **Your Turn**. This gives you an opportunity to show that you understand what you have learned.



Check Your Understanding

Check Your Understanding questions follow each **On the Job**.

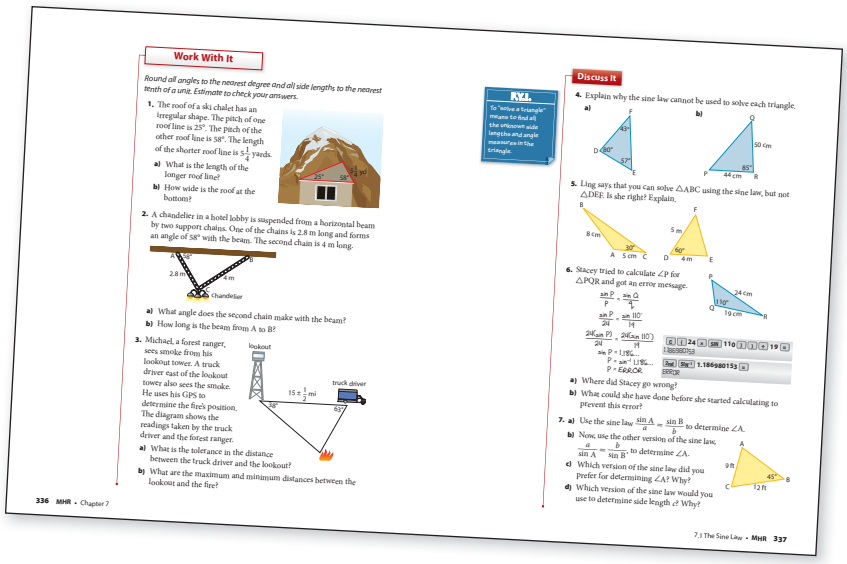
- The first part of this question set includes **Try It** questions. These questions check your knowledge and understanding of the On the Job. Most can be answered by following the example in the On the Job.
- **Apply It** questions include problems from everyday life or the workplace. You need to apply the skills you learned in the On the Job to these situations.

Work With It

The end of each section has **Work With It** questions. To answer these questions, you may need to use knowledge and skills from more than one **On the Job**.

The **Discuss It** questions are communication questions.

- You may wish to discuss the questions with the class, in a group, or with a peer.
- Communicate your thoughts in the way that works best for you. This may be in writing, orally, or visually.



Other Features

F.Y.I.

The **F.Y.I.** boxes are "for your information."

F.Y.I.

The average daily high temperature in Mexico City in February and September is 23 °C.

- These boxes provide additional information about items in the text.

F.Y.I.

The probability of precipitation is based on a combination of
- how certain the meteorologist is that precipitation will occur somewhere in the area
- how much of the area is expected to receive precipitation

- Some provide background information.

F.Y.I.

In a regular polygon, all sides are the same length and all angles have the same measure. A pentagon has five sides. A hexagon has six sides.

- Many of these boxes include visuals which help explain a new word.

Web Links

Web Link

To find out what the minimum wage is in your province, go to www.mcgrawhill.ca/books/mathatwork12 and follow the links.

You can find extra information related to some questions on the Internet. Log on to ***www.mcgrawhill.ca/books/mathatwork12***. You will be able to link to recommended Web sites.

Web Link

Most designers use computers to create 3-D drawings. To practise designing a room, go to www.mcgrawhill.ca/books/mathatwork12 and follow the links.

Some of these **Web Links** lead to interactive games and applets.

Tools of the Trade

Tools of the Trade

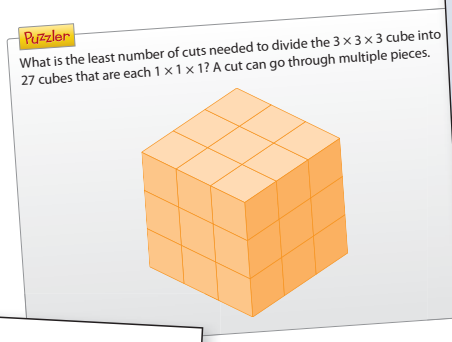
Horticultural technician is a Red Seal trade. Horticultural technicians use gardening and power tools to grow, plant, and maintain various types of plants, turf, and shrubs. They also install and maintain irrigation systems and construct landscapes.

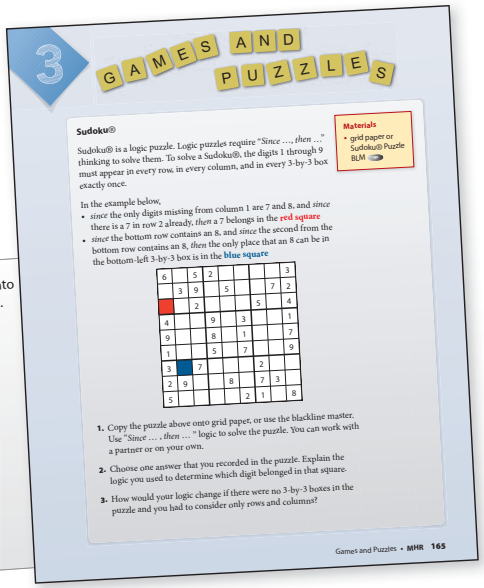
Tools of the Trade boxes provide information about the type of work involved in a specific career, and the tools and equipment used. Go online to ***www.mcgrawhill.ca/books/mathatwork12***. You will be able to link to Web sites that provide additional information about that trade. Some include videos of people on the job.

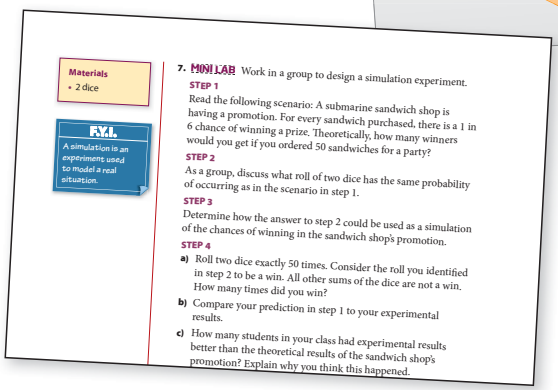
Games and Puzzles

Have some fun! Two features encourage you to play with the math you are learning.

- A **Games and Puzzles** page at the end of each chapter provides entertaining activities that reinforce the skills you are learning.
- **Puzzler** boxes in some chapters are connected to the math in that chapter.







Mini Labs

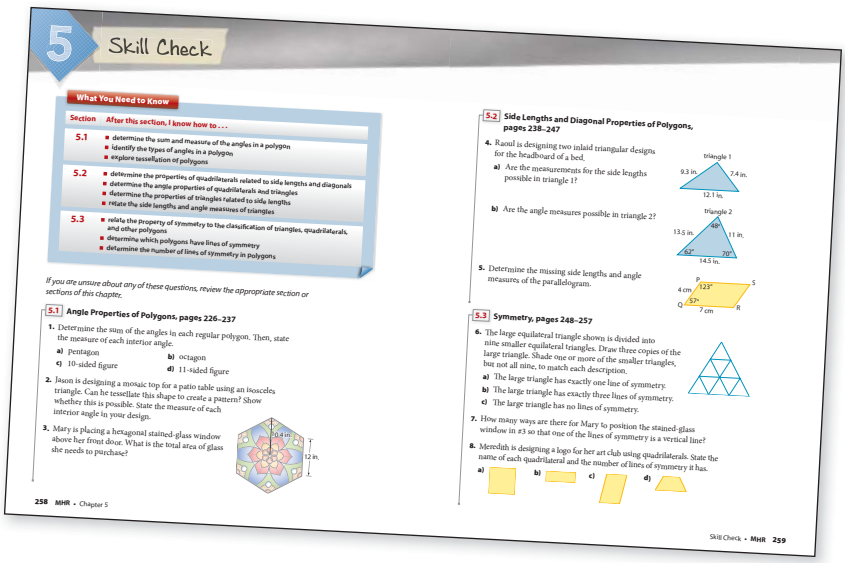
MINI LAB **Mini Labs** in some chapters allow you to experiment with what you are learning.

- These include a **Materials** box in the margin. You need these items in order to do the activity.
- Work with a partner or in a small group. How does the activity help you with the math in the chapter?

Skill Check

There is a **Skill Check** at the end of each chapter. This is a chapter review.

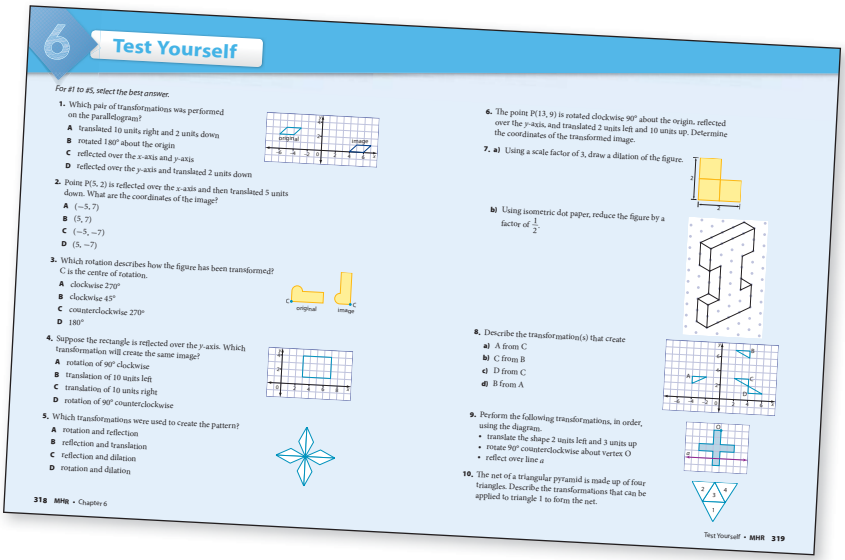
- The Skill Check starts with a **What You Need to Know** box. This lists the skills covered in the chapter. You can check what section each skill is in.
- The Skill Check is organized by section number. You can look back if you need help with a question.



Test Yourself

The **Test Yourself** at the end of each chapter is a practice test.

- The Test Yourself includes multiple choice and extended response questions.
- It covers similar questions to what you can expect on a chapter test.


6 Test Yourself

For #1 to #5, select the best answer.

1. Which pair of transformations was performed on the parallelogram?
   A translated 10 units right and 2 units down
   B rotated 180° about the origin
   C reflected over the x-axis and y-axis
   D reflected over the y-axis and translated 2 units down

2. Point P(5, 2) is reflected over the x-axis and then translated 5 units down. What are the coordinates of the image?
   A (−5, 7)
   B (5, 7)
   C (−5, −7)
   D (5, −7)

3. Which rotation describes how the figure has been transformed? C is the centre of rotation.
   A clockwise 270°
   B clockwise 45°
   C counterclockwise 270°
   D 180°

4. Suppose the rectangle is reflected over the y-axis. Which transformation will create the same image?
   A rotation of 90° clockwise
   B translation of 10 units left
   C translation of 10 units right
   D rotation of 90° counterclockwise

5. Which transformations were used to create the pattern?
   A rotation and reflection
   B reflection and translation
   C reflection and dilation
   D rotation and dilation

6. The point P(13, 9) is rotated clockwise 90° about the origin, reflected over the y-axis, and translated 2 units left and 10 units up. Determine the coordinates of the transformed image.

7. a) Using a scale factor of 3, draw a dilation of the figure.

   b) Using isometric dot paper, reduce the figure by a factor of $\frac{1}{2}$.

8. Describe the transformation(s) that create
   a) A from C
   b) C from B
   c) D from C
   d) B from A

9. Perform the following transformations, in order, using the diagram.
   - translate the shape 2 units left and 3 units up
   - rotate 90° counterclockwise about vertex O
   - reflect over line a

10. The net of a triangular pyramid is made up of four triangles. Describe the transformations that can be applied to triangle 1 to form the net.

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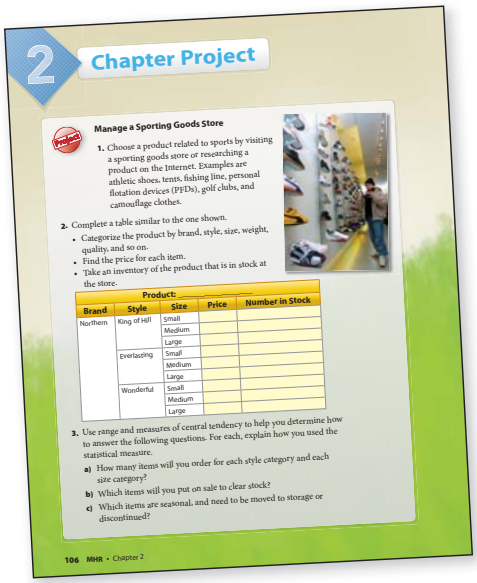
2 Chapter Project

Manage a Sporting Goods Store

1. Choose a product related to sports by visiting a sporting goods store or researching a product on the Internet. Examples are athletic shoes, tents, fishing line, personal flotation devices (PFDs), golf clubs, and camouflage clothes.

2. Complete a table similar to the one shown.
   - Categorize the product by brand, style, size, weight, quality, and so on.
   - Find the price for each item.
   - Take an inventory of the product that is in stock at the store.

Product:				
Brand	Style	Size	Price	Number in Stock
Northern	King of Hill	Small		
		Medium		
		Large		
	Everlasting	Small		
		Medium		
		Large		
	Wonderful	Small		
		Medium		
		Large		

3. Use range and measures of central tendency to help you determine how to answer the following questions. For each, explain how you used the statistical measure.
   a) How many items will you order for each style category and each size category?
   b) Which items will you put on sale to clear stock?
   c) Which items are seasonal, and need to be moved to storage or discontinued?

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Chapter Project

Each **Chapter Project** requires you to use skills from the chapter. You will also need to use your creativity.

Answers

Answers are provided for the Get Ready, Check Your Understanding, Work With It, Skill Check, and Test Yourself questions. They start on page 366 in the student resource. Sample answers are provided for questions that have several possible answers or that involve communication.

Glossary

Refer to the illustrated **Glossary** starting on page 416 of the student resource. This provides the exact meaning of mathematical terms.