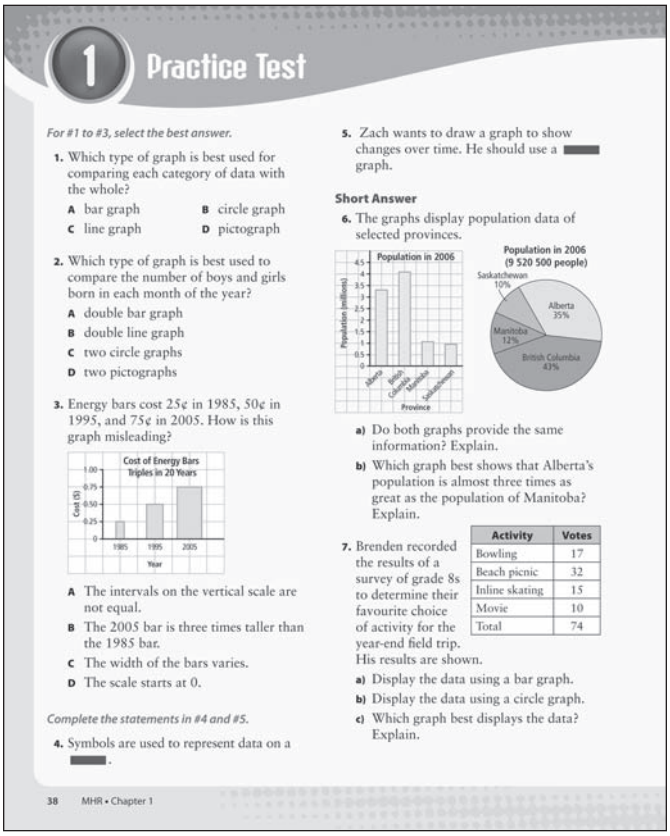
1 Practice Test



1 Practice Test

For #1 to #3, select the best answer.

1. Which type of graph is best used for comparing each category of data with the whole?

A bar graph **B** circle graph
C line graph **D** pictograph

2. Which type of graph is best used to compare the number of boys and girls born in each month of the year?

A double bar graph
B double line graph
C two circle graphs
D two pictographs

3. Energy bars cost 25¢ in 1985, 50¢ in 1995, and 75¢ in 2005. How is this graph misleading?

A The intervals on the vertical scale are not equal.
B The 2005 bar is three times taller than the 1985 bar.
C The width of the bars varies.
D The scale starts at 0.

Complete the statements in #4 and #5.

4. Symbols are used to represent data on a ▬.

5. Zach wants to draw a graph to show changes over time. He should use a ▬ graph.

Short Answer

6. The graphs display population data of selected provinces.

a) Do both graphs provide the same information? Explain.
b) Which graph best shows that Alberta's population is almost three times as great as the population of Manitoba? Explain.

7. Brenden recorded the results of a survey of grade 8s to determine their favourite choice of activity for the year-end field trip. His results are shown.

Activity	Votes
Bowling	17
Beach picnic	32
Inline skating	15
Movie	10
Total	74

a) Display the data using a bar graph.
b) Display the data using a circle graph.
c) Which graph best displays the data? Explain.

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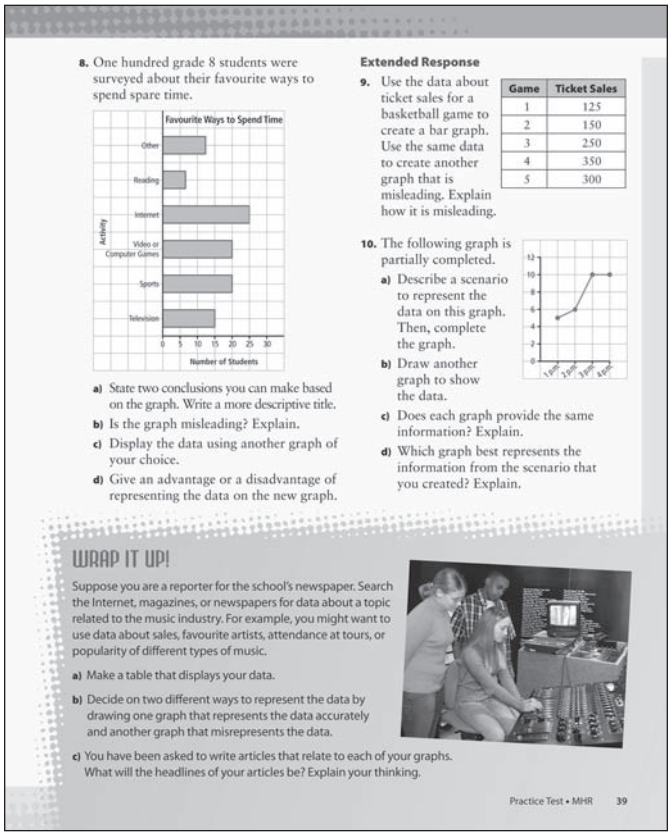

8. One hundred grade 8 students were surveyed about their favourite ways to spend spare time.

a) State two conclusions you can make based on the graph. Write a more descriptive title.
b) Is the graph misleading? Explain.
c) Display the data using another graph of your choice.
d) Give an advantage or a disadvantage of representing the data on the new graph.

Extended Response

9. Use the data about ticket sales for a basketball game to create a bar graph. Use the same data to create another graph that is misleading. Explain how it is misleading.

Game	Ticket Sales
1	125
2	150
3	250
4	350
5	300

10. The following graph is partially completed.

a) Describe a scenario to represent the data on this graph. Then, complete the graph.
b) Draw another graph to show the data.
c) Does each graph provide the same information? Explain.
d) Which graph best represents the information from the scenario that you created? Explain.

WRAP IT UP!

Suppose you are a reporter for the school's newspaper. Search the Internet, magazines, or newspapers for data about a topic related to the music industry. For example, you might want to use data about sales, favourite artists, attendance at tours, or popularity of different types of music.

a) Make a table that displays your data.
b) Decide on two different ways to represent the data by drawing one graph that represents the data accurately and another graph that misrepresents the data.
c) You have been asked to write articles that relate to each of your graphs. What will the headlines of your articles be? Explain your thinking.

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***MathLinks 8*, pages 38–39**

Suggested Timing
40–50 minutes

Materials
- grid paper
- ruler
- coloured pencils
- calculator (optional)
- compass
- protractor
- computer with spreadsheet software (optional)

Blackline Masters
Master 8 Centimetre Grid Paper
Master 9 0.5 Centimetre Grid Paper
Master 12 Percent Circles
BLM 1–14 Chapter 1 Test

Planning Notes

Make copies of **Master 8 Centimetre Grid Paper, Master 9 0.5 Centimetre Grid Paper**, and **Master 12 Percent Circles** available for students to draw graphs for #7 to #10. Have students start the practice test by writing the question numbers in their notebook. Have them indicate which questions they need a little help with, a lot of help with, or no help with. Have students first complete the questions they know they can do. Then, have them complete the questions they know something about. Finally, have students do their best on the questions that they are struggling with.

This practice test can be assigned as an in-class or take-home assignment. Provide students with the number of questions they can comfortably do in one class. These are the minimum questions that will meet the related curriculum outcomes: #1–#3, #5, #6, and #9.

Study Guide

Question(s)	Section(s)	Refer to	The student can …
1, 2, 4, 5	1.1	Example 1 Key Ideas	✓ compare information from different graphs
3	1.2	Example 3	✓ explain how the size of bars on a graph could be misleading
6	1.1 1.3	Example 1 Example	✓ compare information from different graphs ✓ identify the advantages and disadvantages of different types of graphs ✓ explain how a graph is used to represent the data from a given situation
7	1.1 1.3	Example 2 Example	✓ compare information from different graphs ✓ explain how a graph is used to represent the data from a given situation
8	1.1	Example 1	✓ compare information from different graphs ✓ identify the advantages and disadvantages of different types of graphs
9	1.2	Example 1 Example 3	✓ identify conclusions that do not agree with a given data set or graph and explain the misinterpretation
10	1.3	Example	✓ explain how a graph is used to represent the data from a given situation

Answers

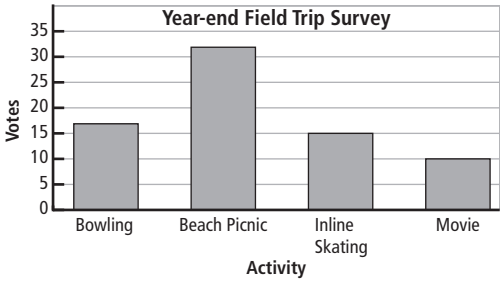
Chapter 1 Practice Test

1. B **2.** A **3.** C **4.** pictograph **5.** line

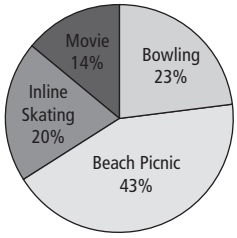
6. a) Answers will vary. Example: Yes, both graphs provide the same information. The bar graph gives the information as number of people in each province; the circle graph gives the information as a percent of the total population.

b) The bar graph. The height of the bar for Alberta in the bar graph is about three times the height of the bar for Manitoba.

7. a)



b) Year-end Field Trip Survey (74 students)



c) Answers will vary. Example: The circle graph displays the percent of votes for each activity. You can clearly see that the preferred activity is the beach picnic.

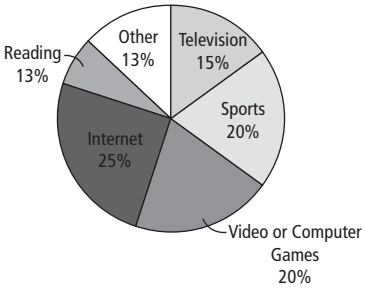
8. a) Look for two accurate conclusions. Examples:
- The Internet is the most popular choice (25 students).
- Reading is the least popular choice (7 students).

A more descriptive title could be: The Internet is In! Reading is Out!

b) The graph is not misleading. Explanations may vary. Examples:
- There is a continuous scale that starts at zero.
- Both axes are labelled and the title is appropriate.

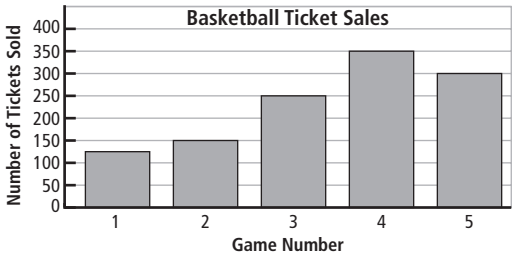
c) Answers will vary. Example:

Favourite Ways to Spend Time (100 students)

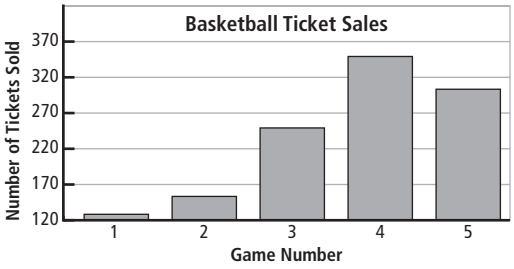


d) Look for one advantage and one disadvantage. Examples:
- An advantage of displaying the data in a circle graph is that the percent of votes for each activity is shown for comparison purposes.
- A disadvantage is that the actual number of votes for each category is not shown.

9.

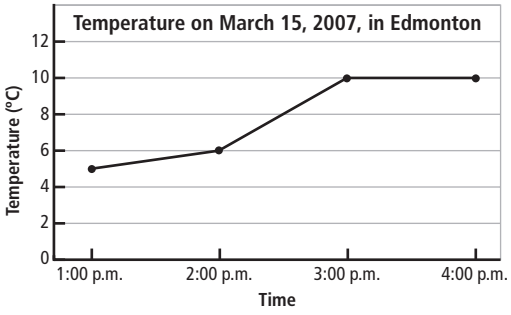


Answers will vary. Example:

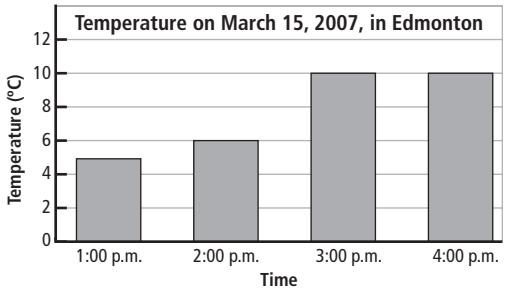


Answers will vary. Example: The second graph is misleading because the vertical axis starts at 120. This graph gives the impression that there were almost five times as many tickets sold for game 4 than for game 1.

10. a) Answers will vary. Example: The graph could show the temperature in Edmonton on March 15, 2007, each hour between 1 p.m. and 4 p.m. Graphs will vary. Example:



b) Answers will vary. Example:



c) Answers will vary. Example: Both graphs show the same data. Both graphs have the same title and they both have axes that have a continuous scale, with no breaks.

d) Answers will vary. Example: The line graph is the best because it shows a change of temperature over time.

Assessment	Supporting Learning
Assessment *as* Learning	
Chapter 1 Self-Assessment Have students review their earlier responses in the What I Need to Work On sections of their chapter Foldable.	• Before completing the Chapter 1 Practice Test, ask students to complete the What I **Learned** column from the KWL chart they started at the beginning of the chapter. Discuss how students might now answer their questions in the What I **Want** to Know column and which ones still need to be answered. • Consider allowing students to use spreadsheet software. • Have students use their responses on the practice test and work they completed earlier in the chapter to identify areas in which they may need to reinforce their understanding of skills or concepts. Before the chapter test, coach them in the areas in which they are having difficulties.
Assessment *of* Learning	
Chapter 1 Test After students complete the practice test, you may wish to use **BLM 1–14 Chapter 1 Test** as a summative assessment.	• Students will need a ruler, grid paper, a compass, and a protractor. • Consider allowing students to use their chapter Foldable. • Consider using the Math Games on page 40 or the Challenge in Real Life on page 41 to assess the knowledge and skills of students who have difficulty with tests.