Chapter 7 Review

Student Text Pages
408 to 409

Suggested Timing
80 min

Related Resources
BLM 7.CR.1 Chapter 7 Review
BLM G10 Grid Paper
BLM G4 Protractor
BLM T4 *The Geometer's Sketchpad*® 3
BLM T5 *The Geometer's Sketchpad*® 4

Tools
- grid paper
- protractors

Technology Tools
- *The Geometer's Sketchpad*®
- computers
- *Cabri*® *Jr.*
- graphing calculators

Ongoing Assessment

- Upon completing the Chapter Review, students can also answer questions such as the following:
  - *Did you work by yourself or with others?*
  - *What questions did you find easy? Difficult? Why?*
  - *How often did you have to check the related example in the text to help you with the questions? For which questions?*

Using the Chapter Review

Each question in **BLM 7.CR.1 Chapter 7 Review** reviews different skills and concepts. Have students work independently to complete the Chapter Review, then with a partner to compare solutions. Alternatively, the Chapter Review could be assigned for reinforcing skills and concepts in preparation for the Practice Test. Provide an opportunity for students to discuss any questions about strategies or any features they find difficult. Use **BLM 7.CR.1 Chapter 7 Review** for the Chapter Review.

Another approach would be to form groups of five students and assign each section to one student in the group. Then, have students teach each other. Access to *The Geometer's Sketchpad*® or TI-83 Plus or TI-84 graphing calculators with *Cabri*® *Jr.* would be helpful. You may wish to use **BLM G10 Grid Paper**, **BLM G4 Protractor** and/or **BLM T4 *The Geometer's Sketchpad*® 3** or **BLM T5 *The Geometer's Sketchpad*® 4** to support these activities.

As students complete the questions, encourage them to keep notes of important results. Their ability to define ideas becomes more critical as the mathematics challenges them more.

After they complete the Chapter Review, encourage students to make a list of questions that caused them difficulty, and include the related sections and teaching examples. They can use this to focus their studying for a final test on the chapter's content.

Chapter 7 Practice Test

Student Text Pages
410 to 411

Suggested Timing
60 min

Tools
- grid paper
- protractors

Technology Tools
- *The Geometer's Sketchpad®*
- computers
- *Cabri® Jr.*
- graphing calculators

Related Resources
BLM G10 Grid Paper
BLM G4 Protractor
BLM T4 *The Geometer's Sketchpad®* 3
BLM T5 *The Geometer's Sketchpad®* 4
BLM 7.PT.1 Chapter 7 Practice Test
BLM 7.CT.1 Chapter 7 Test

Summative Assessment

- After students complete **BLM 7.PT.1 Chapter 7 Practice Test**, you may wish to use **BLM 7.CT.1 Chapter 7 Test** as a summative assessment.

Accommodations

Visual—Provide opportunities for students to have the questions read to them.

Perceptual—If possible, provide students with opportunities to work with an educational assistant or to work with a partner so students understand exactly what is being asked in the questions.

Motor—Allow students extra time to complete the questions in this section.

Language—Encourage students who are having difficulty with language-processing to work with a scribe and/or a partner who will read the questions to them.

ESL—Encourage students to use a translator to ensure that they understand the meaning and the context of the words being used.

Study Guide

Use the following study guide to direct students who have difficulty with specific questions to appropriate examples to review.

Question	Section(s)	Refer to
1	7.1	Example 1 (page 369)
2	7.1	Example 2 (page 370)
3	7.3	Example 1 and 2 (page 389)
4	7.3	Example 2 (page 389)
5	7.4	Example 2 (page 396)
6	7.3	Example 1 (page 389)
4	7.5	Example 1 (page 403)
5a)	7.1	Example 1 (page 369)
5b)	7.2	Example 1 (page 379)
5c)	7.1	Example 2 (page 370)
5d)	7.2	Example 2 (page 379)
6	7.5	Example 1 (page 403)
7	7.5	Example 2 (page 404)

Using the Practice Test

This Practice Test can be assigned as an in-class or take-home assignment. If it is used as an assessment, use the following guidelines to help you evaluate the students.

Can students do each of the following?

- Identify different types of triangles
- Find the degree measure of missing interior and exterior angles of triangles
- Identify different types of quadrilaterals
- Find the degree measure of missing interior and exterior angles of quadrilaterals
- Use *The Geometer's Sketchpad®* and/or *Cabri® Jr.* to construct sketches
- Find the sum of the interior angles of a polygon
- Find the sum of the exterior angles of a polygon
- Create a geometric diagram from given information
- Find the degree measure of each angle of a regular polygon and construct it
- Draw a regular polygon by constructing its "spokes" first
- Find the midpoints of line segments
- Construct the medians of a triangle
- Test a property of a geometric figure using dynamic geometry
- Provide a counter-example for a conjecture that is incorrect

Chapter 7 Problem Wrap-Up

Student Text Page
411

Suggested Timing
80 min

Tools
- cardboard triangles created in Chapter Opener
- more heavy cardboard
- grid paper
- rulers
- protractors
- utility or craft knives
- metre sticks

Technology Tools
- computers
- Internet access

Related Resources
BLM G10 Grid Paper
BLM G4 Protractor
BLM A8 Application General Scoring Rubric
BLM A10 Observation General Scoring Rubric
BLM 7.CP.1 Chapter 7 Problem Wrap-Up Rubric
BLM A18 My Progress as a Problem Solver

Summative Assessment

- Use **BLM 7.CP.1 Chapter 7 Problem Wrap-Up Rubric** to assess student achievement.

Using the Chapter Problem

- The Chapter Problem is introduced at the beginning of the chapter and revisited in Section 7.4. It takes the concept of a median from an abstract geometric idea to a context that students can understand and engage in.
- Introduce the concept of a centre of mass. Hopefully, students will get the idea that in order for something to balance there must be an equal distribution of mass on either side of the ruler. That concept can then be extended to the intersection of the medians as the balance point for the triangle.
- Have students work individually or with a partner. Alternatively, you may wish to assign the Chapter Problem as a homework activity.
- The difficulty of this Chapter Problem depends on how much discussion about the concepts has preceded its assignment, and how much experience students have. Some students may find it quite easy. You may wish to extend the problem for these students by suggesting that they also explore the same properties with other geometric shapes (e.g., square, parallelogram, rhombus, kite, arbitrary quadrilateral, pentagon, etc.). Some stronger students may complete this extension without prompting.
- You may wish to use **BLM G10 Grid Paper** and/or **BLM G4 Protractor**.
- Alternatively, you could use this activity as part of a year-end performance assessment package to be done by students in class. You can observe and record student confidence and work habits as they tackle this type of activity. You may wish to use **BLM A8 Application General Scoring Rubric** and/or **BLM A10 Observation General Scoring Rubric**, in addition to **BLM 7.CP.1 Chapter 7 Problem Wrap-Up Rubric**. Or, have students self-assess using **BLM A18 My Progress as a Problem Solver**.
- As an extension, suggest that students use the Internet to investigate Winnipeg's claim that it is the centre of mass for North America. How would city officials there have arrived at this conclusion? Do any other cities make this or similar claims?

Level 3 Sample Response

1. The student will hand in two or more cardboard triangles of varying shapes. The three medians should be drawn on each cardboard triangle.

a) Yes, the cutout balanced if I carefully placed it so that one of the medians lay along the edge of a metre stick.

b) The centre of mass must lie along any median since my experiment in a) shows that there is equal mass on either side of the median. The only point that is on all three medians is their point of intersection.

c) This point where the three medians meet seems to be the balance point, although it was difficult to put my finger at this exact point.

Level 3 Notes

Look for the following:
- One or two cardboard triangle created with proficient use of geometric tools (e.g., rulers, cutting tools, etc.)
- Summary report that states conclusions simply for each part of the experiment
- An understanding of geometric properties involved in the question

What Distinguishes Level 2

At this level, look for the following:

- One cardboard triangle submitted, may be of poor quality workmanship
- Summary report may be missing or contain results for only one part of the experiment
- Some understanding of the geometric properties involved

What Distinguishes Level 4

At this level, look for the following:

- More than two well-constructed, labelled cardboard triangles submitted
- Summary report is complete and detailed in its explanations
- Report may include discussion about problems with the activities and possible future remedies
- A high degree of proficiency with geometry software
- An understanding of geometric properties involved in the question and connections between the ideas from the two activities