Chapter 3 Review

Student Text Pages
174 to 175

Suggested Timing
80 min

Tools
- grid paper

Related Resources
BLM 3.CR.1 Chapter 3 Review
BLM G10 Grid Paper
BLM A14 Self-Assessment Recording Sheet
BLM A15 Self-Assessment Checklist

Ongoing Assessment

- Upon completing the Chapter Review, students can also answer questions, such as,
  - *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 the **BLM 3.CR.1 Chapter 3 Review** reviews different skills and concepts. The students might work independently to complete the Chapter Review, then in pairs to compare solutions. Alternatively, the Chapter Review could be assigned for reinforcing skills and concepts in preparation for the Practice Test. You may wish to use **BLM G10 Grid Paper**. Provide an opportunity for the students to discuss any questions containing strategies or questions with features they find difficult.

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. You may wish to use **BLM A14 Self-Assessment Recording Sheet** or **BLM A15 Self-Assessment Checklist** to help students assess their understanding.

Chapter 3 Practice Test

Student Text Pages
176 to 177

Suggested Timing
60–80 min

Related Resources
BLM 3.PT.1 Chapter 3 Practice Test

BLM 3.CT.1 Chapter 3 Test

Summative Assessment

- After students complete **BLM 3.PT.1 Chapter 3 Practice Test**, you may wish to use **BLM 3.CT.1 Chapter 3 Test** as a summative assessment.

Accommodations

Language—Allow students to give oral responses to the review questions.

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	3.2	Example 1f) (page 112)
2	3.3	Example 4a) (page 125)
3	3.3	Example 2c) (page 122)
4	3.3	Example 3a) (page 124)
5	3.5	Example 2 (page 145)
6	3.4	Example 2 (page 131)
7	3.4	Example 3 (page 132)
8	3.5	Example 5 (page 148)
9	3.7	Example 3b) (page 164)
10a)	3.3	Example 1b), c) (page 121)
10b)	3.3	Example 4d) (page 125)
11	3.3	Example 4 (page 125)
12a)	3.6	Example 1 (page 154)
12b)	3.6	Example 3 (page 155)
13	3.7	Example 3 (page 164)
14	3.7	Investigate (page 160)
15	3.2	Investigate (page 111)
16	3.5	Example 4 (page 146)

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?

- build visual models to represent length, area and volume, using concrete materials
- expand and evaluate powers
- apply exponent laws to simplify and evaluate expressions
- identify coefficients and variables within a term
- classify terms by degree
- classify polynomials by name and degree
- identify like terms
- collect like terms
- add and subtract polynomials
- apply the distributive property to expand and simplify algebraic expressions
- construct algebraic models in order to solve problems

Chapter 3 Problem Wrap-Up

Student Text Pages
177

Suggested Timing
60 min

Tools
- grid paper

Technology Tools
- *The Geometer's Sketchpad*®
- computers

Related Resources
BLM T4 *The Geometer's Sketchpad*® 3

BLM T5 *The Geometer's Sketchpad*® 4

BLM G10 Grid Paper

BLM 3.CP.1 Chapter 3 Problem Wrap-Up Rubric

Summative Assessment

- Use **BLM 3.CP.1 Chapter 3 Problem Wrap-Up Rubric** to assess student achievement.

Using the Chapter Problem

- Students should be ready to perform this activity at the end of the chapter, especially if they have been working on the Chapter Problem components throughout.
- The Chapter Problem can be done individually or in groups.
- Suggest to students that their design must not be so complex that the measurements and calculations become too difficult.
- You may wish to have students use computer software such as *The Geometer's Sketchpad*® when designing their logo. You may wish to use **BLM T4 *The Geometer's Sketchpad*® 3** or **BLM T5 *The Geometer's Sketchpad*® 4**. This could be used as part of a summative assessment activity.
- If computer software is unavailable, use **BLM G10 Grid Paper** so that students can create accurate drawings of their ideas.
- This problem is quite open-ended. Students can provide simple solutions or very complex ones. Encourage students to reflect on their work and consider revising to provide a more sophisticated set of solutions.
- Provide sufficient time for the revision process. Students will create higher quality work if they have an opportunity for constructive feedback and time to incorporate suggestions and additional ideas into their project.
- This would be a good project for students to include in their portfolios.

Level 3 Notes

Look for the following:
- A complete logo that is in the form of a polygon
- All polygon segments are labelled with variables
- Variables are used in the dimensions in a relevant way
- The logo is related to the team name
- Problems created are accurate and have simple solutions
- Algebraic calculations are mostly correct, with only minor errors

What Distinguishes Level 2

At this level, look for the following:
- A logo is created but it may not be in the form of a polygon and hence the remaining parts of the question are made difficult
- Most polygon segments are labelled
- A different variable may label each straight side or the variables may be a reflection of measurements (e.g., only one variable x is used, and 5 cm becomes $5x$)
- Logo may not be related to the team name (e.g., the student chooses a logo that interests them)
- Problems created may not involve any algebraic skills or may contain minor errors
- Algebraic calculations may have some significant errors

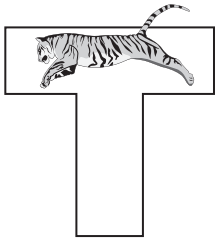
What Distinguishes Level 4

At this level, look for the following:
- A complete logo that may involve multiple polygons
- All polygon sides are labelled with variables so the scale of the diagram parts is obvious
- The choice of variables is related to the actual measurements of the dimensions of the diagram
- Logo is a creative blend of team name, graphics, and mathematical requirements

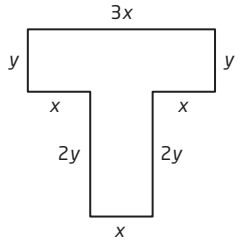
- Problems created are sophisticated yet related to the context
- Students may provide a sample of their logo created on card, fabric, etc.
- Algebraic calculations are flawless

Level 3 Sample Response

a) I designed this logo for my team, the Tigers



b) I labelled the dimensions of the T with the variables x and y as shown.



c) The perimeter of my logo is:

$P = x + 2y + x + y + 3x + y + x + 2y$

$= 6x + 6y$

d) The area of my logo can be found by dividing the letter into two rectangles

$A = (3x)(y) + (x)(2y)$

$= 3xy + 2xy$

$= 5xy$

e) Problem 1: Sarah wants to make a large logo for the gym wall. She notes that $y = 0.8x$. If the overall logo is to be 3 m tall, how wide will it be?

Solution 1: The height is $3y = 3$ m. Therefore, $y = 1$ m. The width is $3x$. Therefore, we need the value of x.

$y = 0.8x \rightarrow 1 = 0.8x \rightarrow \frac{1}{0.8} = x \rightarrow x = 1.25$

The width is 3.75 m.

Problem 2: If $x = 10$ cm and $y = 8$ cm, what is the perimeter and area of the logo?

Solution 2: $P = 6x + 6y$

$= 6(10) + 6(8)$

$= 108$

The perimeter is 108 cm.

$A = 5xy$

$= 5(10)(8)$

$= 400$

The area is 400 cm^2.