Chapter 2 Practice Test

Student Text Pages
116–117

Suggested Timing
75 min

Materials and Technology Tools
- grid paper
- algebra tiles
- computers with graphing software (optional)
- colour tiles (optional)

Related Resources
- BLM G-1 Grid Paper
- BLM 2-12 Chapter 2 Practice Test
- BLM 2-13 Chapter 2 Test
- BLM 2-14 Chapter 2 Practice Test Achievement Check Rubric

Summative Assessment
- **BLM 2-12 Chapter 2 Practice Test** provides a source for possible diagnostic assessment.
- After students complete **BLM 2-12 Chapter 2 Practice Test**, you may wish to use **BLM 2-13 Chapter 2 Test** as a summative assessment.

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 the common forms of a quadratic function: standard form, factored form, and vertex form
- identify the key features of the graph of a quadratic function given in each of its common forms
- sketch a graph of a quadratic function given in each of its common forms
- expand and simplify algebraic expressions
- write a quadratic function given in factored form or vertex form in standard form
- factor polynomials using a variety of strategies: looking for common factors, decomposition, identifying a perfect square trinomial, and identifying a difference of squares
- factor polynomials using multiple steps
- write a quadratic function given in standard form in factored form
- solve quadratic equations by factoring
- solve problems involving quadratic functions and equations by applying factoring techniques

- **Question 16** is an Achievement Check question. Provide students with **BLM 2–14 Chapter 2 Practice Test Achievement Check Rubric** to help them understand what is expected.

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	2.1	Example 2 (pages 67–69)
2	2.1	Example 2 (pages 67–69)
3	2.1	Example 1 (pages 66–67)
4	2.2	Example 1 (pages 79–80)
5	2.3	Example 1 (pages 90–91)
6	2.3	Example 3 (pages 91–93)
7	2.1	Example 1 (pages 66–67)
8	2.4	Example 2 to 4 (pages 101–103)
9	2.4	Example 3 (pages 102–103)
10	2.3, 2.4	Example 3 (pages 93–94), Example 5 (page 104)
11	2.5	Example 3 (pages 110–111)
12	2.1	Example 3 (pages 69–70)
13	2.1	Example 2 (pages 67–69)
14	2.5	Example 3 (pages 110–111)
15	2.1	Example 2 (pages 67–69)
16	2.4	Example 1 (pages 99–100)

Achievement Check Sample Solution (page 117, question 16)

a)

Stage	Yellow	Green	Red
1	4	4	1
2	4	8	4
3	4	12	9
4	4	16	16
:	:	:	:
n	4	$4n$	n^2

b) The number of yellow squares is a constant function (no growth). The number of green squares is a linear function (constant first differences of 4). The number of red squares is a quadratic function (constant second differences of 2).

c) $T = n^2 + 4n + 4$

d) $a = 1$, $b = 4$, and $c = 4$. The coefficient a indicates that there is 1 red square in the middle growing by one unit on its side length. The coefficient b indicates that there are 4 green rectangles along the sides that are each growing by one unit. The constant c indicates that there is a constant number of four yellow squares at the corners.

e) $T = n^2 + 4n + 4$
$T = (n + 2)^2$
Each colour section of squares has a side length of $n + 2$ units.