Review

Student Text Pages
472 to 473

Suggested Timing
60–75 min

Tools
- grid paper
- graphing calculator

Related Resources
- G–1 Grid Paper
- BLM 8–8 Chapter 8 Review

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	8.1	Investigate (pages 416–418)
2	8.1	Example 1 (pages 418–420)
3	8.1	Example 1 (pages 418–420)
4	8.1	Example 2 (pages 420–422)
5	8.2	Investigate (pages 429–430)
6	8.2	Example 1 (pages 430–432)
7	8.2	Example 1 (pages 430–432
8	8.3	Example 1 (pages 440–442)
9	8.3	Example 1 (pages 440–442)
10	8.4	Example 1 (pages 451–453)
11	8.4	Investigate (pages 450–451)
12	8.4	Example 3 (pages 454–456)
13	8.5	Example 1 (pages 463–465)
14	8.5	Example 1 (pages 463–465)

Problem Wrap-Up

Student Text Page
473

Suggested Timing
20–30 min

Tools
- grid paper
- graphing calculator
- computer
- *The Geometer's Sketchpad®*
- *Fathom™*

Related Resources
- G–1 Grid Paper
- T–2 *The Geometer's Sketchpad®* 4
- T–3 *Fathom™*
- BLM 8–9 Chapter 8 Problem Wrap-Up Rubric

Summative Assessment
- Use **BLM 8–9 Chapter 8 Problem Rubric** to assess student achievement.

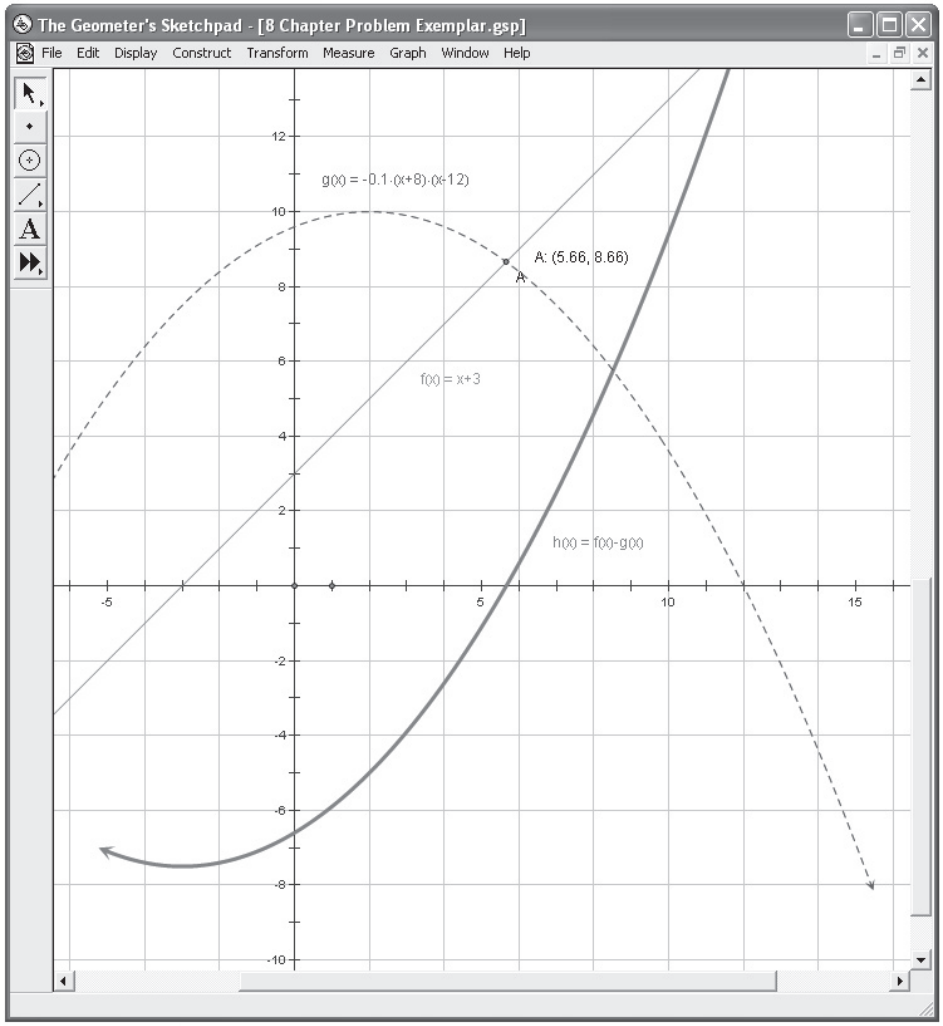
Using the Chapter Problem

Students should be provided with access to graphing technology to complete this Chapter Problem. Encourage students to reflect on the work they did in the various problems involving functions related to business (e.g., cost, revenue, profit) during the chapter, and their mathematical models. Also encourage them to recall methods for illustrating inequalities using graphing technology. Introduce and discuss the Chapter Problem Wrap-Up as a class. Describe and clarify the assessment criteria before students begin their work.

Level 3 Sample Response

The graph shows

- supply, f, as a function of price, x, $f(x) = S(p)$
- demand, g, as a function of price, x, $g(x) = D(p)$
- the difference function, supply − demand, $h(x) = f(x) - g(x) = S(p) - D(p)$



The information from this graph is used to answer parts a)–d).

a) $D(p) > S(p)$ on the approximate interval $(0, 5.7)$, which means that for prices less than about \$5.70, demand for Funky Teddy Bears will exceed supply.

b) $D(p) < S(p)$ on the approximate interval of $(5.7, \infty)$, which means that for prices greater than about \$5.70, supply will exceed demand for Funky Teddy Bears.

c) Refer to the graph above. The intersection point of these functions is approximately $(5.7, 8.7)$. This means that supply and demand for Funky Teddy Bears are equal for a price of approximately \$5.70, and at this price approximately 8700 Funky Teddy Bears will be sold.

d) The graph of $y = S(p) - D(p)$ is shown above. It shows the number of excess Funky Teddy Bears that will be unsold for prices greater than \$5.70 and the number of unfulfilled Funky Teddy Bear orders for prices less than \$5.70.

Level 3 Notes

- A mathematical model is generated that accurately depicts the supply, demand, and difference functions
- Questions are answered with considerable accuracy, perhaps with one or two minor errors
- Models are analysed and explained with considerable clarity

What Distinguishes Level 2

- Mathematical model may contain one or two minor errors (e.g., difference function is constructed in reverse order), but generally is correct
- Questions are answered with reasonable accuracy, perhaps with an oversight that should have been caught upon reflection (e.g., forgot to multiply the number of units by 1000)
- Models are analysed and explained with reasonable clarity (e.g., supply and demand functions are clearly explained, but the difference function is not)

What Distinguishes Level 4

- A mathematical model is posed that accurately and efficiently depicts the supply, demand, and difference functions
- All questions are answered with mathematically correct solutions and clear explanations, using a variety of tools and strategies (e.g., graph, equations, integrated narrative)
- Models are analysed and explained with exceptional clarity, drawing references between the algebraic and graphical representations and the contextual situation they represent