

Chapter 7 Problem Wrap-Up

Student Text Pages

315

Suggested Timing

80 min

Tools

- computers
- *The Geometer's Sketchpad*®
- grid paper

Related Resources

BLM 7.CP.1 Chapter 7 Problem
Wrap-Up Rubric
BLM G1 Grid Paper
BLM T1 *The Geometer's
Sketchpad*® 4

Summative Assessment

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

Teaching Suggestions

- You may wish to use the Chapter Problem Wrap-Up as a summative assessment.
- If you have used the Chapter Problem questions throughout the chapter, then the Chapter Problem Wrap-Up question will consolidate students' learning. You may, however, wish to use all the Chapter Problem questions as a summative assignment at the end of the chapter.
- Engage the class in an open discussion on how to approach solving the problem before having students work individually to find a solution.
- If *The Geometer's Sketchpad*® is not available, have students use paper and pencil and **BLM G1 Grid Paper** to solve the problem.

Level 3 Sample Response

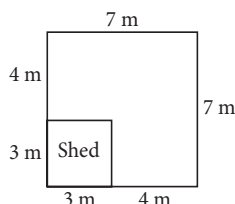
$$\begin{aligned} \text{a) Area} &= l \times w \\ &= 7 \times 7 \\ &= 49 \end{aligned}$$

Therefore, the area of the original garden including the shed is 49 m^2 .

$$\begin{aligned} \text{b) The area of shed} &= 3 \times 3 \\ &= 9 \end{aligned}$$

The area of original garden = $49 - 9$

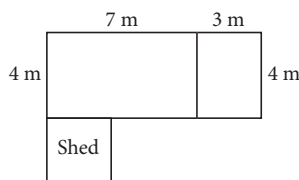
The dimensions of the original garden are 4 m by 7 m by 7 m by 4 m.



$$\begin{aligned} \text{c) Volume} &= \text{Area} \times \text{depth} \\ &= 40 \times 0.1 \\ &= 4 \end{aligned}$$

Therefore, she will need 4 m^3 of topsoil to cover the old garden.

- d) She will need the same amount of topsoil for her new garden because the new garden will have the same area and require the same thickness.



The new garden has dimensions 10 m by 4 m, therefore, the area is 40 m^2 , and its volume is 40×0.1 , or 4 m^3 .

- e) Using a scale of $1 \text{ cm} = 1 \text{ m}$, the garden can be reconfigured so that the extra part is on the left hand side.

Level 3 Notes

Look for the following:

- A complete scale diagram of original garden and new garden, correctly labelled with dimensions and units
- Correct formulas for perimeter, area, and volume are used
- Accurate measures and total cost of fencing new garden
- Accurate measure and total cost of topsoil for the new garden
- Clear and complete explanations for parts d) and e)

What Distinguishes Level 2

At this level, look for the following:

- Diagram not drawn to scale
- Some use of proper units for area and volume
- Perimeter and area calculated without the use of formulas
- Sketch of the problem only
- Explanation of parts d) and e) are only partly clear and incomplete

What Distinguishes Level 4

At this level, look for the following:

- A thorough and complete diagram of original and new gardens, drawn to scale
- Complete and correct use of dimensions and proper units of original and new gardens
- Complete and correct use of formulas for perimeter, area, and volume
- Topsoil costs for the new garden accurately calculated
- More than one way to reconfigure the garden shown
- A realization that the area of old and new gardens are equal
- A thorough, clear, and concise explanation of parts d) and e)