

You Make the Decision

STRAND: Measurement and Geometry

STRAND CONCEPT: Area, Perimeter, and Circumference

SOL 5.8b

Remediation Plan Summary

Students determine whether a given situation is an application of the concept of perimeter, area, or volume.

Common Errors and Misconceptions

- Students may use the formula for perimeter when finding the area.
- Students may confuse the units for area and perimeter and not include units squared for area.
- Students may think the distance around an object is area instead of perimeter.
- Students may think that covering a surface is perimeter instead of area.
- Students may think that filling an object is area instead of volume.
- Students may have difficulty conceptualizing the difference between a linear unit and a square unit.

Materials

- Warm-up worksheet
- You Make the Decision recording sheet

Introductory Activity

Distribute copies of the “Warm-up” worksheet, and allow students time to solve the problems. Review the answers when students have completed the work clarifying any misconceptions that students have.

Plan for Instruction

1. Ask students for examples of situations in which someone may need to measure around the exterior of an object or location. (Installing a fence, placing a border around a room) List their responses on the board. Explain that these are examples of situations in which it is important to be able to calculate perimeter.
2. Ask students for examples of situations in which someone may need to cover a surface. (Painting a wall, mowing grass) List their responses on the board. Explain that these are examples of situations in which it is important to be able to calculate area.
3. Ask students for examples of situations in which someone may need to know how much a container holds. (The number of cubes that will fit in a box, the amount of water that will fit in a container) List their responses on the board. Explain that these are examples of situations in which it is important to be able to calculate volume.
4. Distribute copies of the “You Make the Decision” recording sheet, and allow students time to complete it. Provide assistance where needed.

AR Remediation Plan – Area, Perimeter, and Circumference

5. After checking everyone's work, have the students play "Hot Seat." Allow one student to sit in a chair (the hot seat) in front of the room. In turn, have students read the examples of area, perimeter, and volume they wrote. If the student in the hot seat can answer 3 (or 5 or 6 or however many you designate) in a row, he/she is retired and does not have to answer any more questions. If a student "stumps" the student in the hot seat, he/she has the honor of sitting in the hot seat. The game continues until there are no more new questions to ask.

Pulling It All Together (Reflection)

Exit Ticket: Have the students write about a real-life time in their life when they or someone they knew used a perimeter, area, or volume calculation to complete a task.

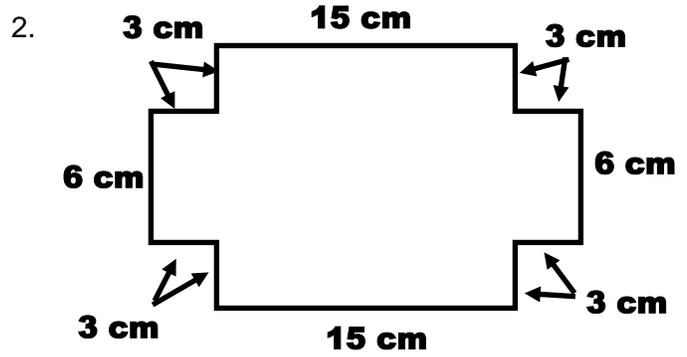
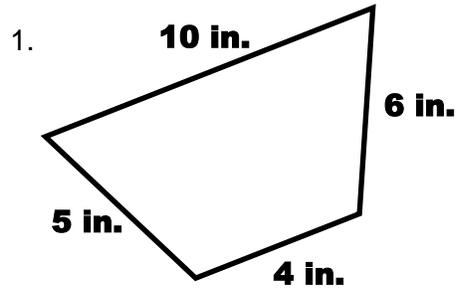
Note: The following pages are intended for classroom use for students as a visual aid to learning.

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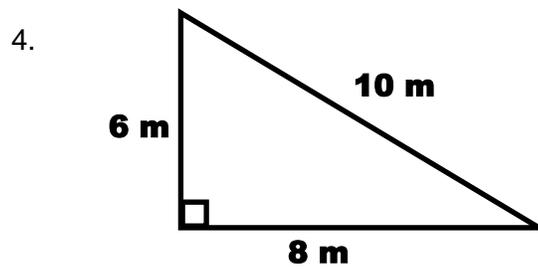
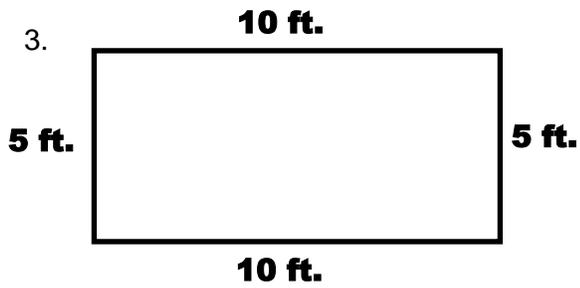
Name: _____

Warm-up

Find the *perimeter* of the following polygons.



Find the *area* of the following figures.



Name: _____

You Make the Decision

Decide whether each of the following situations is an example of area, perimeter, or volume.

1. The distance around a city block in New York City _____
2. The amount of wallpaper needed to cover a wall of your bedroom _____
3. The length of string needed to wrap around a large box _____
4. The amount of new carpeting to carpet the family room _____
5. The amount of gasoline needed to fill a car's gas tank _____
6. The size of a cover for a swimming pool _____
7. The amount of water needed to fill the swimming pool _____
8. The length of fence needed to surround a swimming pool _____
9. The amount of grass in an athletic field _____
10. The length of wood needed to add a baseboard to the kitchen _____

Write an example of your own for each of the following measurements.

Area: _____

Perimeter: _____

Volume: _____
