

Investigate Problem 1

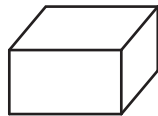
How tall is one layer of bricks in feet? Use a complete sentence in your answer.

How many layers will be needed to complete the base?
Use a complete sentence in your answer.

2. Use complete sentences to describe how you would use the length and the width of the barbecue base to find the number of bricks that are needed for one layer of the base.
3. Use complete sentences to describe how you would determine the number of bricks that are needed to complete the base of the barbecue.
4. How many measurements are involved in the planning of the construction of the barbecue? Describe these measurements. Use a complete sentence in your answer.



5. **Just the Math: Volume** The **volume** of a solid three-dimensional object, like the base of the barbecue, is the amount of space contained inside the object. A model of the base is shown below. Label the base with the measurements you identified in Question 4.



How many dimensions does volume involve?

Investigate Problem 1



6. Name the units that are used to indicate the volume of the base of the barbecue. Use a complete sentence in your answer.

7. Find the volume of the base of the barbecue. Use a complete sentence in your answer.



8. Complete the following statement. Then use complete sentences to explain your reasoning.

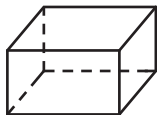
Area is to square feet as volume is to _____.



9. When you are considering the area of a two-dimensional plane figure like a polygon, the area is enclosed by one-dimensional line segments. When you are considering the volume of a three-dimensional solid figure like the barbecue base, what kind of figures are enclosing the volume? Use a complete sentence in your answer.

10. What is the shape of each side of the barbecue base? Use a complete sentence in your answer.

11. **Just the Math: Surface Area** Another important measurement of solids, such as the barbecue base, is the *surface area* of the solid. The **surface area** is the total area of the outside surfaces of the solid. How many outside surfaces does the barbecue base have? A model of the base is shown below. Describe these surfaces. Use complete sentences in your answer.



Investigate Problem 1



12. The entire barbecue is shown below. Find the volume of the barbecue. Show all your work and use a complete sentence in your answer.

