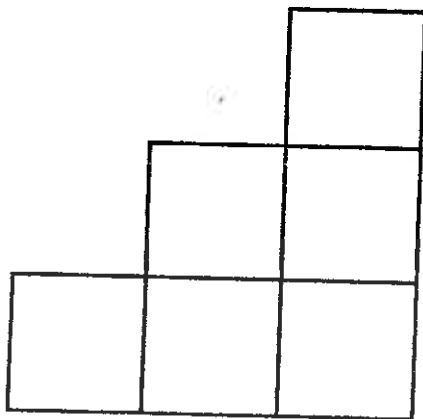


POW #15

A STAIRCASE PATTERN

Some 1 centimeter squares are arranged in a staircase pattern. The drawing below shows a 3 step staircase. The area is 6 square centimeters and the perimeter is 12 centimeters.



What is the area and perimeter of a 10 step staircase?

Note: Area refers to the number of squares inside the figure.

Perimeter is the distance around the figure.

POW GUIDELINES

Number and label the 4 parts of your write-up.

1. *Complete heading.*

2. **Problem Statement.**

In your own words, tell what you are asked to do—include the essential details and the question.

3. **Process.**

Show all your work. Refer to the problem to give reasons for each step. Write enough (several paragraphs) to show that you really tried to solve the problem.

4. **Solution.**

Write your answer in a sentence which refers to the problem. Explain why your answer makes sense. Show a check if you can.

5. **Evaluation.**

Write complete sentences to answer these questions:

- How do you feel about this POW? Why?
- Did anyone help you?
- Does this remind you of any other problem?
- Tell one thing you learned.
- What rubric score should you get? Why?

EXTENSIONS. (Extensions are optional) If the POW is easy for you, try the extensions. Write a paragraph for each—the extensions do not require 4-part write-ups.

FIRST EXTENSION: What is the area and perimeter of a 20 step staircase?

SECOND EXTENSION: Describe the relationship between the number of steps and the perimeter and between the number of steps and the area.