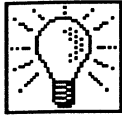
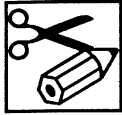


Designing the Perfect Park

Leader



Practice organizing information, visualizing use of space, determining percentages on a grid, and applying geometric concepts.



You will need:

- 10 x 10 square grid (see Materials Page)
- Compass
- Ruler



Do this:

- Review the situation described below. Use the information to design the park.
- Design a park:

Imagine that your community has one square block that has been vacant since all of its buildings were torn down several years ago. Your club petitioned the city government seeking permission to design the “perfect park” for that vacant lot. The Commissioner of Recreation responded to your petition by requesting that you submit a sample design that meets the following conditions:

1. The park has to meet the needs of all age groups.
2. No major area of the park should be a perfect square.
3. The park must include:
 - a. An eight-sided (octagonal) recreation building that does not use more than 15% of the land space; (location of bathrooms, gameroom, meeting room, office, etc. must be indicated on drawing of the park design)
 - b. A children’s playground that covers no more than 30% of the land space; (location of play equipment, sand box, etc. should be indicated)
 - c. Basketball and/or tennis courts that cover not more than 25% of the lot;
 - d. Grass, trees, and other plants that cover at least 25% of the lot and
 - e. Any other feature you wish to include.
4. The design drawing should indicate the location of all walkways, bicycle paths, water fountains, beaches, trash cans, etc.



Student _____



Do this:

- Imagine that your community has one square block that is vacant. Your club has asked the city government for permission to design the perfect park for that vacant lot. The Commissioner of Recreation has asked you to submit a sample park design that meets the following conditions:
 1. The park must meet the needs of all age groups.
 2. No major area of the park should be a perfect square.
 3. The park must include:
 - a. an eight-sided (octagonal) recreation building that does not use more than 15% of the land space;
 - b. a children's playground that covers no more than 30% of the land space;
 - c. basketball and/or tennis courts that cover not more than 25% of the lot;
 - d. grass, trees, and other plants that cover at least 25% of the lot; and
 - e. any other features you wish to include.
 4. The design should indicate the location of all walkways, bicycle paths, water fountains, beaches, trash cans, etc.
- On the 10 x 10 grid design your perfect park. Then calculate the perimeter and area for the building and playground and the area of the grassy sections.

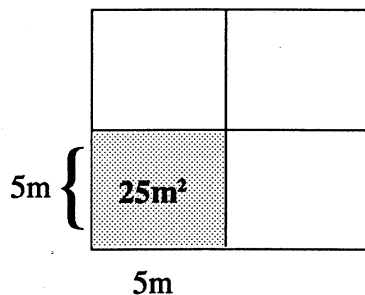
Remember: The *perimeter* is the total distance around the park or around any other area. to find the perimeter of the park you can add the lengths of the four sides of the park.

The amount of surface of the park is called its *area*. For your park there are two ways to find the area:

1. Multiply the length (in meters) by the width (in meters) which gives you the area in SQUARE METERS.

or

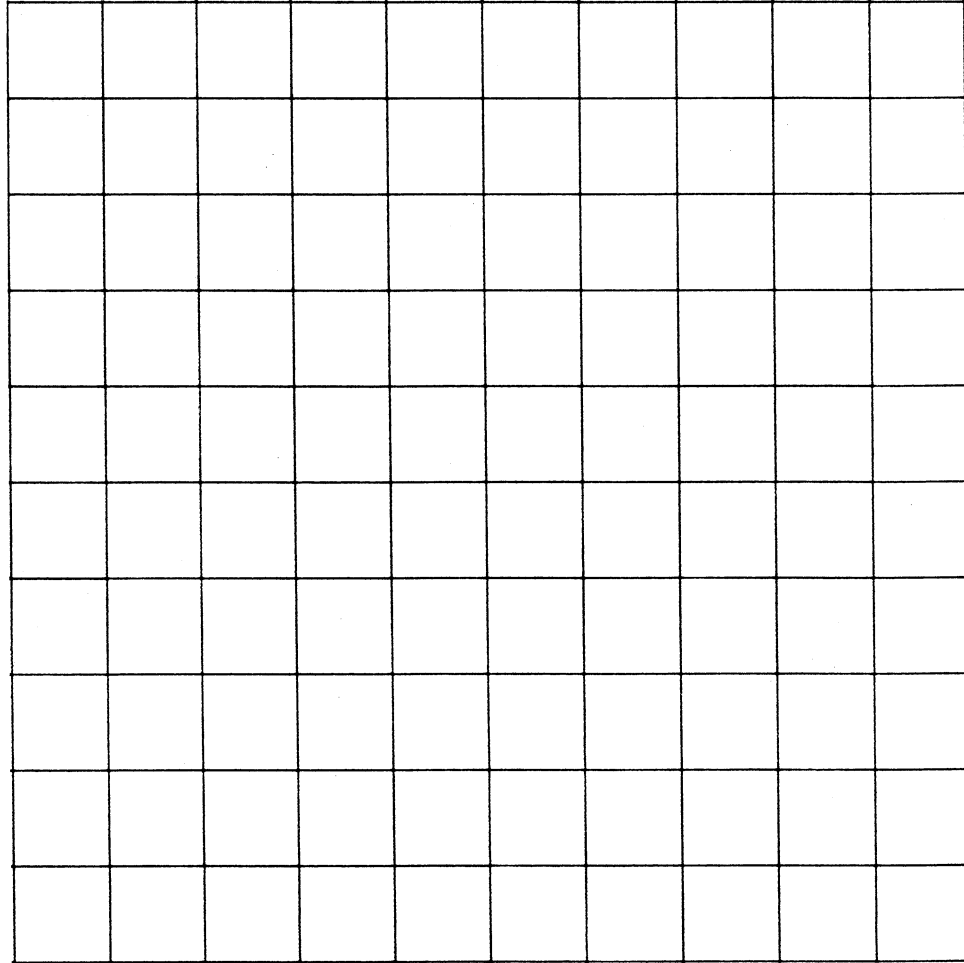
2. Count the number of grid squares in the park or in the part of the park for which you want to find the area. Since the side of each square on the grid = 5 meters of the city block, we can find the area represented by each small square: 5 meters x 5 meters = 25 square meters or $25m^2$. Therefore, each small square on the grid has an area of $25m^2$.



WHAT I FOUND

Designing the Perfect Park

Materials Page



Dimensions

Entire Park: Each side of the park is 50 meters in length (the side of each square on this grid represents 5 meters)

Perimeter = 200 meters or 200m

Area = 2500 square meters or 2,500m²

Grassy Section:

Area = _____

Recreation Building:

Perimeter = _____

Area = _____

Playground

Perimeter = _____

Area = _____