

## Lots of Lots

### Goals

- Determine actual distances by measuring map distances with a centimeter ruler and applying the map scale.
- Reason deductively to solve problems.
- Find perimeters and areas of polygons by measuring and applying formulas.

### Notes

Prior to using this problem set, you may want to review formulas for finding areas of triangles, parallelograms, and trapezoids. If calculators are available, you may want to have students use them for the computations.

**Solutions to all problems in this set appear on page 87.**

### Questions to Ask

#### Lots of Lots 1

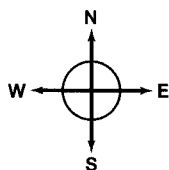
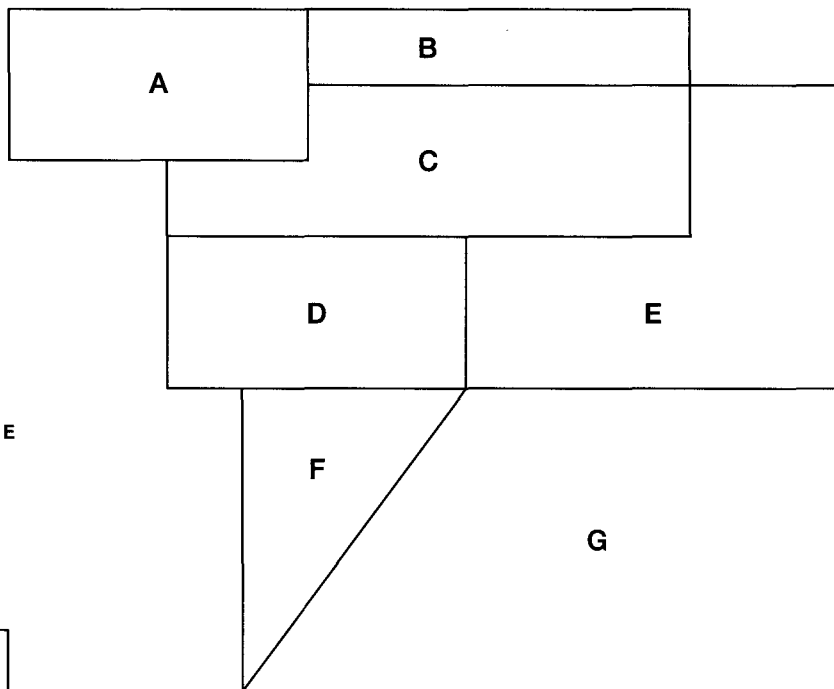
- What is the scale? (1 centimeter represents 50 meters.)
- What is the shape of Lot G? (trapezoid)
- How can you figure out the area of the trapezoid? (Possible answers: Apply the area formula  $\frac{1}{2}(b_1 + b_2) \times h$ :  $\frac{1}{2}(400 + 250) \times 200 = 65,000$  sq m; partition the trapezoid into a triangle and a rectangle, compute their areas, and find the sum of the areas: rectangle:  $200 \times 250 = 50,000$  sq m, triangle:  $\frac{1}{2}(150 \times 200) = 15,000$  sq m,  $50,000 + 15,000 = 65,000$  sq m.)

### Solutions

1. Dennis
2. Harris
3. Crawford
4. Green
5. Ferris
6. Bloom
7. Roper

# Lots of Lots 1

Use the clues, the map scale, and your centimeter ruler. Name the owner of each lot.



Scale: 1 cm = 50 m

## Clues

- The lots belonging to Bloom, Dennis, Green, and Harris have the same perimeter.
- The lots belonging to Dennis and Green have the same area.
- The area of Roper's lot is slightly more than twice the area of Crawford's lot.
- Green's lot is south of Harris' lot.
- The lots belonging to Crawford and Ferris have the same perimeter.

- |                            |                            |
|----------------------------|----------------------------|
| 1. Lot A belongs to _____. | 2. Lot B belongs to _____. |
| 3. Lot C belongs to _____. | 4. Lot D belongs to _____. |
| 5. Lot E belongs to _____. | 6. Lot F belongs to _____. |
| 7. Lot G belongs to _____. |                            |