IGGY FINDS A HOME

THE FOLLOWING "FOOD FOR THOUGHT FROM Jay's Diner" problem appeared in the March–April 1998 issue of the journal:

> Iggy needs a home. He is John's pet iguana. Iggy is very active and needs plenty of room to roam. John has 60 feet of fencing that is flexible and will bend. With the available fencing, John wants to design an enclosure that will maximize Iggy's living space. Can you help him?

Several teachers challenged their students with this problem. Arlene Cohen submitted several creative solutions from her seventh-grade class at Princeton Day School, Princeton, NJ 08540, one of which is shown in **figure 1.** Notice that Annie begins by drawing different shapes and finding the area of each shape. This strategy was a common approach to the problem, but Annie takes her guess-and-check method a step further when she reaches the insightful conclusion that as the number of sides increases, so does the area.

Barbara Haugen, Sacred Hearts School, Sun Prairie, WI 53590, submitted the work of Claire, her sixth-grade student **(fig. 2).** Claire provides a thorough explanation of her thinking in determining the radius of the circle.

Mary Ellen Gillis's students used their imaginations to design interesting homes for Iggy. Gillis teaches at Bird Middle School, East Walpole, MA 22032-1338. Brendan and Peter capitalized on their experiences with keeping pets in their backyards. As did the other students, they realized that a cir-

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Edited by HOPE FLORENCE, *Department of Mathematics, College of Charleston, Charleston, SC 29424. This department shares the thinking of middle school students as they explore and communicate mathematics. It highlights students' work, including projects, investigations, or creative solutions to the problems in the monthly menu. Original student work will be included along with sufficient information about the activity so that readers can try the ideas with their students. Please send manuscripts to the editor.*

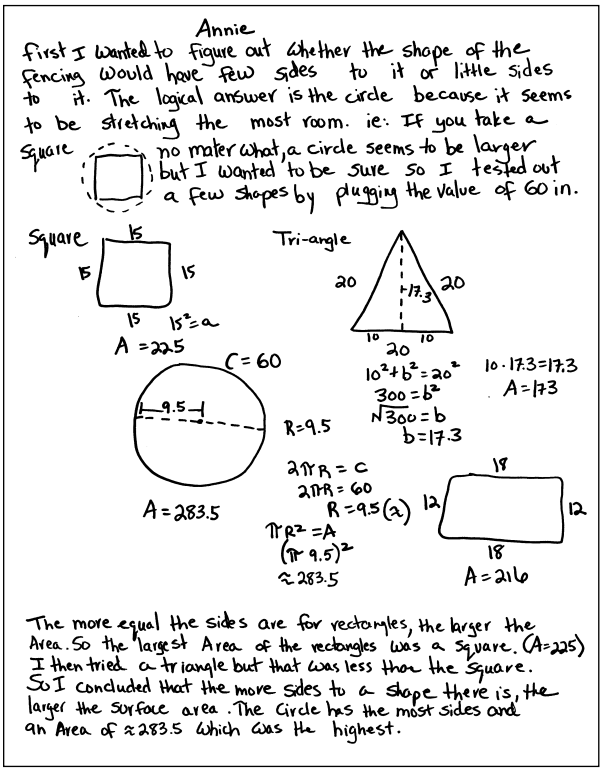

Fig. 1 Annie illustrates her explanation.

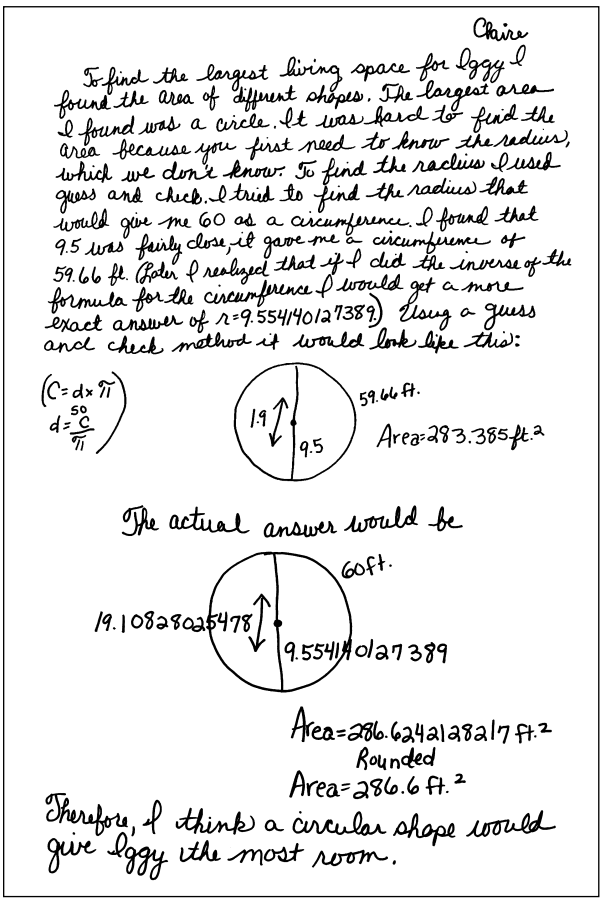

Fig. 2 Claire describes her strategy.

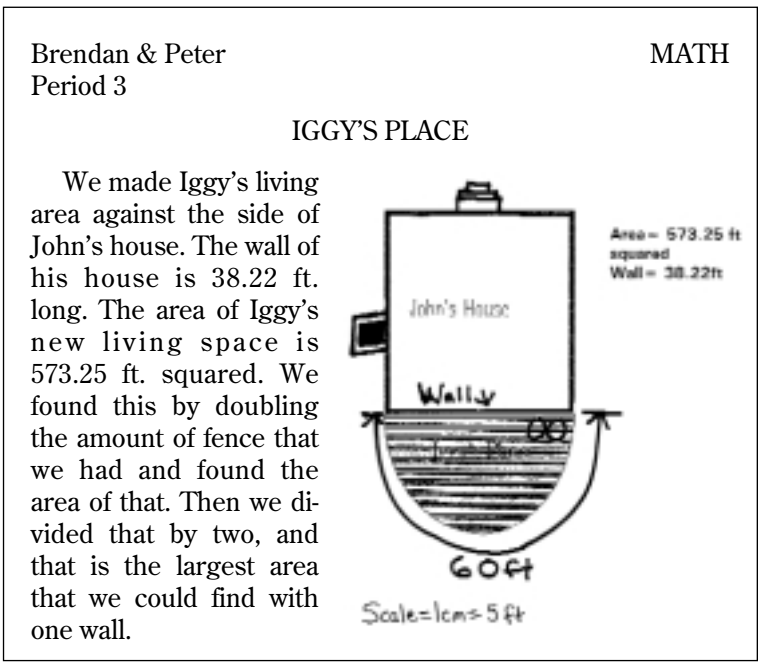

Fig. 3 Iggy currently shares a wall with John.

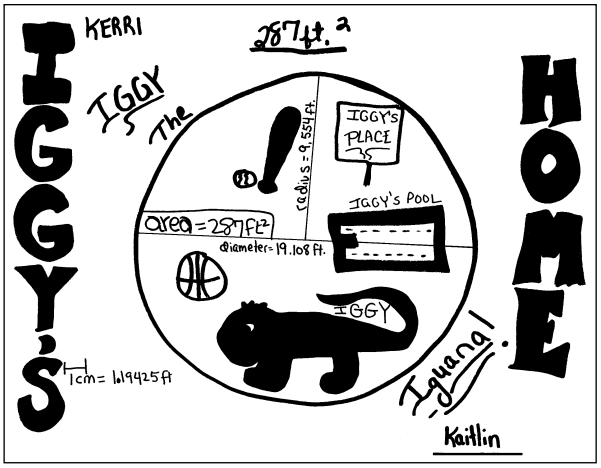

Fig. 4 Kaitlin and Kerri draw Iggy's home to scale.

cle would enclose the greatest area for Iggy. However, they decided to incorporate other material, like the side of John's home. Using a wall of the house for one side, they designed a semicircular pen that enclosed twice as much area as the circle. Their innovative approach is explained and illustrated in **figure 3. Figure 4** shows Kaitlin and Kerri's version of Iggy's home drawn to scale.

Other ideas to solve the problem included using string to form and test different enclosures (1 cm = 1 ft.) and using graph paper to draw shapes and compute the area by counting squares.

Congratulations to all students who successfully solved this problem and made Iggy's world a bigger and better place! ▲