A TEACHER REFLECTS

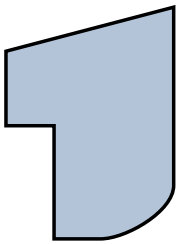

Figure 1

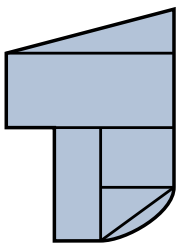

Figure 2

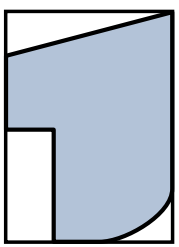

Figure 3

Finding Areas

The floor plan that **Julio** drew back in Lesson 1 of the unit was beautiful, but complicated (Figure 1). It even included a curved portion. If Julio knew then that he would have to find its area, he might have used a simpler shape. However, at this point in the unit, he knew how to find the area by subdividing the floor plan into triangles, rectangles, and one small region with a curved edge (Figure 2).

"How will you find the area of this curved part?" I asked. "Easy," he replied. "Just put a transparency of centimeter squares over it and count up the squares and parts of squares inside. The rest of the shapes I can use formulas on."

I was pleased to see that the work we had done on using different methods to find areas gave Julio the confidence to tackle this problem.

Later, I paired up students and asked them to check each other's work by finding the areas of each other's floor plans in a different way. **Jasmine** worked on Julio's floor plan (Figure 3). She decided to find the area using Surround and Subtract, so she drew a rectangle around Julio's floor plan. Then she found the floor plan's area by subtracting the three outer areas from the surrounding rectangle's area.

I overheard Julio say, "That looks a lot easier, but why is the area you got different from mine?"

"Our numbers aren't that far apart," Jasmine answered. "You got 164.7 sq. cm, I got 172.5 sq. cm; we're only about 8 sq. cm off."

"Maybe it's the parts of squares in the curved shape? I'll check it again."

From their conversation, I knew that Julio and Jasmine had a good understanding of the concept of area measurement separate from any particular formula or method. They also realized the value of having several methods for finding area.