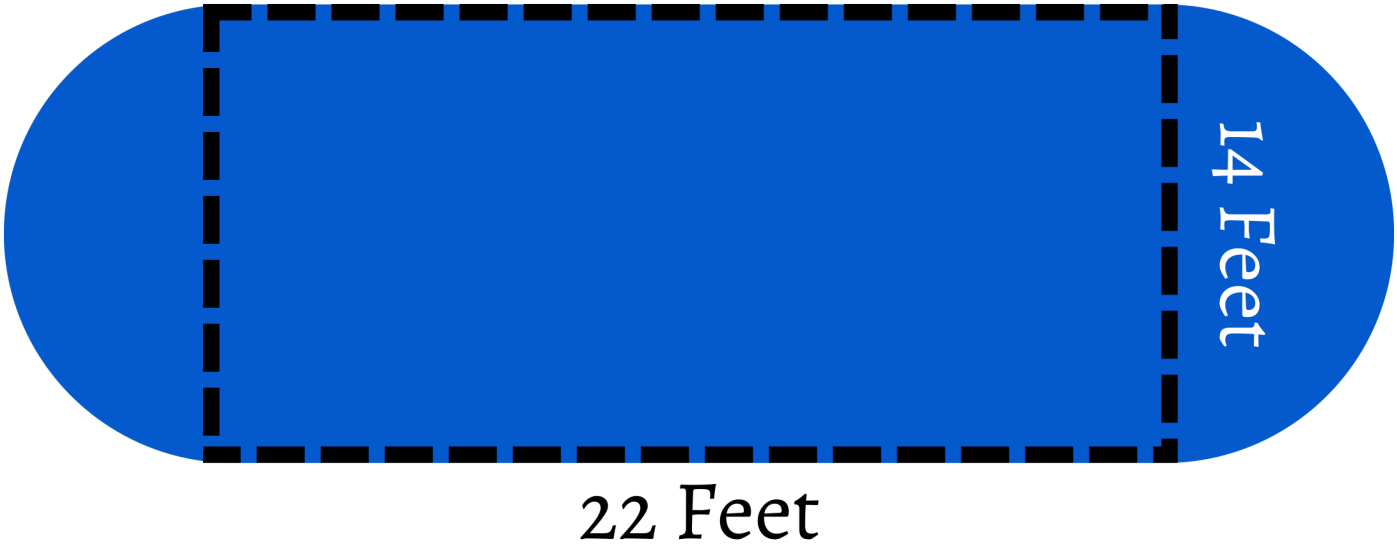
The Swimming Pool

It's 98 degrees outside and the Swimly Family want to fill up their pool for the summer. They are on a budget and plan on spending no more than $700 on water. Will they be able to fill up their pool?



The shape of the pool is rectangular in the center and has two half circles on each end.

Cost of Water:

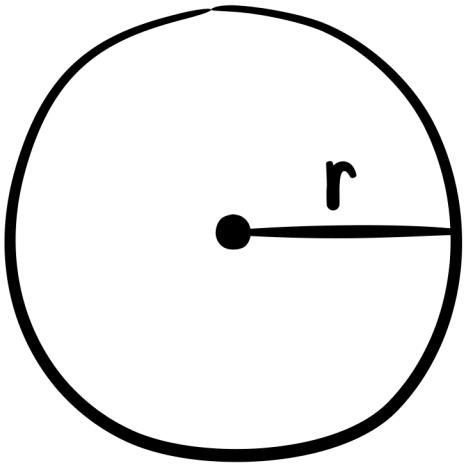
4 cents per gallon

Height of Pool:

The pool is 5 feet deep

Additional Information

How to Find The Area of a Circle:



$$A = \pi r^2$$

π = 3.14

1 Cubic Foot = 7.48 gallons

Teacher Note

It is helpful to have students use a large piece of paper for this problem. I have them divide their paper into 4 quadrants and solve a different piece of the problem in each quadrant. It makes it easier for other students to see the process they've used and to be able to double-check each other's work.

Make sure students read the problem a couple of times before starting. You can either hold onto additional information until they ask for it or review everything at the beginning.

This problem is perfect to use during or after a unit on volume. Finding the volume of the rectangular pool section is easy enough, but they will need to visually see that the two ends create a circle when put together.

I instruct students to round up for this problem. Also, students may run into some issues with decimals.

Students will need help with finding the area of a circle, but we want them to make the connection that once they have the area, finding the volume is just like finding the volume of a rectangle.

This problem has led to many rich discussions about how to approach the problem if the pool had a shallow end that slowly transitioned into a deep end.

Enjoy!

Penny