# SI@UCF: Java Course
# Homework Assignment: Dorm Room Pranks

Ashley just nailed Jordan with an awesome prank and now you want to help him get her back! Jordan has an idea: He'd like to get cups full of water and put them ALL over Ashley's floor, so she can't walk into her room without knocking some of them over. Unfortunately, Jordan isn't so good at math. Here's where you come in. He needs you to figure out the following information:

(1) How many cups of water are necessary to fill Ashley's room.
(2) How much water will be used total.

You will be given the dimensions of Ashley's room, in meters, the radius and height of the cups used for the prank in centimeters. Assume that Ashley's floor is a perfect rectangle, and that you will place the cups in a perfect rectangular grid, where each cup occupies a square on the ground. (For example, if Ashley's room is 2 meters by 3 meters, and the radius of a cup is 3 centimeters, then the rectangle of cups will be 33 x 50 cups, because 33 full cups will fit in a row in 2 meters, and 50 full cups will fit in a row in 3 meters.)

## Input Specification

You will ask the user to enter four pieces of information:

(1) length of Ashley's room (in meters), *will be an integer.*
(2) width of Ashley's room (in meters), *will be an integer.*
(3) radius of the cups (in centimeters), *will be an integer.*
(4) height of the cups (in centimeters), *will be an integer.*

## Output Specification

You will calculate and report the following two pieces of information:

(1) How many cups of water are necessary to fill Ashley's room, *will be an integer.*
(2) How much water will be used total, in liters, *will be a real number.*

To calculate the latter, note that 1000 $cm^3$ of water is one liter. Also, you'll find the following formula for volume of a cylinder useful:

$$V = \pi r^2 h,$$

Simply use Math.PI to access the value of $\pi$. (If you need further help, please ask a TA about using $\pi$.)

**Sample Run (User input in bold italics)**

```
Enter the length of Ashley's room, in meters.
3
Enter the width of Ashley's room, in meters.
2
Enter the radius of the cups used, in centimeters.
3
Enter the height of the cups used, in centimeters.
4

You will need 1650 cups.
You will use 186.61060362323371 liters of water.
```