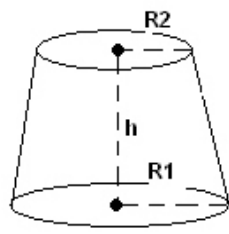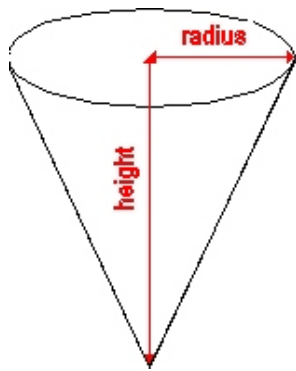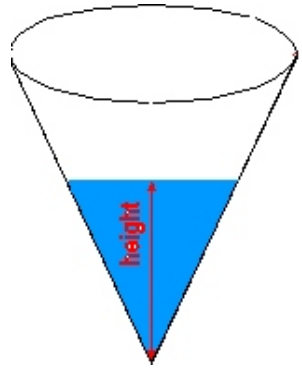**Problem 1**

Filling The Cone

Water is poured into a cone of height, h centimetres, and radius, r centimetres. How high will the water rise in the cone?

Here are some diagrams and formula to assist you.

The volume of a cone is 1/3(Area of Base)(height) = ⅓ Π r^2 h

$$Volume = \frac{\pi}{3}h(R1^2 + R2^2 + R1*R2)$$

The input file (**DATA11.txt** for the first submission and **DATA12.txt** for the second submission) will contain five sets of data. Each set of data will contain three lines. The first line will contain *h*, the height of the cone in centimetres, *0 <= h <= 100*. The second line will contain *r*, the radius of the cone in centimetres, *0 < r <= 100*. The third line will contain *Vw*, the volume of water poured into the cone, in cubic centimetres. *0 < Vw <= ⅓ Π r²h*.

For purposes of this program, please use 3.1415926 for the value of pi (Π).

The output file (**OUT11.txt** for the first submission and **OUT12.txt** for the second submission) will contain five lines of data. Each line will contain the vertical height of the water in the cone, accurate to two decimal places.

Sample Input (3 sets of data only)	**Sample Output**
10 10 100 10 10 50 20 20 250	4.57 3.63 6.20