You may have heard the name of *Archimedes*. It is said that, *Archimedes* discovered the buoyancy laws when asked by the King Hiero of Syracuse to determine whether his new crown was pure gold or not. *Archimedes* was threatened to be punished if he was unable to do so. One day he was bathing and thinking about the way to solve the problem. When he immersed himself into a fully poured bath tub, some water overflowed. Then suddenly he started shouting "Eureka, Eureka" and ran out nude to the king, because he solved the problem from that event. Since then the law of buoyancy was established.

The laws of buoyancy that was discovered by *Archimedes* in the third century B.C., which are :

- *A body immersed in a fluid experiences a vertical buoyant force equal to the weight of the fluid is displaces.*
- *A floating body displaces its own weight in the fluid in which it floats.*

Many complex analysis became possible after the discovery of these buoyancy laws. In this problem we are considering a hydrometer, which is used to measure the specific gravity of any fluid using the simple approach offered by the buoyancy laws.

A *hydrometer* floats at a level which is a measure of the specific gravity of the liquid. The stem is of constant diameter D, and a weight in the bottom stabilizes the body to float vertically, as shown in the figure. If the position $h = 0$ is pure water ($SG = 1.0$), find h or SG whichever is not given in the input.

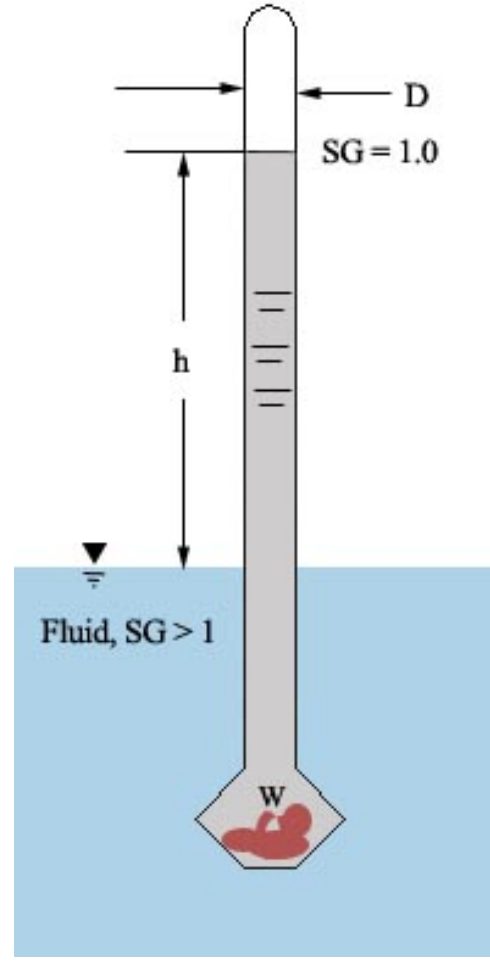

Figure 1 : A Hydrometer

Input

Input consists of three line, each for any of the given four constants. Input must have the value of W in gram ($0 < W \leq 5000$) and D in millimeter ($0 < D \leq 100$). Along with these h in centimeter ($0 < h \leq 50$) or SG ($0 < SG \leq 25$) may appear. Use specific weight of water, $\gamma_w = 9806.65\ N/m^3$, Gravitational Acceleration $g = 9.80665\ m/s^2$, density of water, $\rho = 1000\ kg/m^3$.

Output

For each set of input process the value of the variable (h or SG) not present in the input. Output of h should be in centimeter (cm). Round each floating point value to two digit after the decimal place.

Sample Input

```
W=3307.00
D=81.00
h=32.00
W=3665.00
D=74.00
SG=1.29
```

Sample Output

```
SG=1.99
h=19.16
```