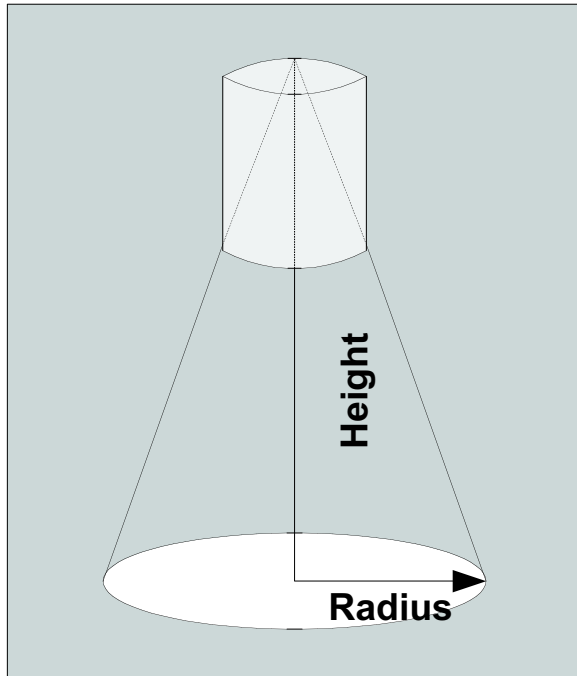


Program Name: light.cpp

Input File: light.dat

The Occupational Safety and Health Administration requires a minimum amount of light (given in lumens per square inch) in the workplace, that differs based on the type of work being done. You work for a company that produces high quality work lights that provide a uniform dispersal of light of within a cone using concave mirrors within a canister. The luminosity of the light can be computed based on the wattage of the light. One watt produces 14 lumens. Different models of the lights are available such that the dispersal ratio is different (dispersal ratio is given as Radius/Height to the mount on the light). See the figure below.



Your assignment is to determine what wattage lights are needed for a given workplace when you are given

- 1) the minimum lumens/square inch
- 2) a dispersal ratio from the type of the light, and
- 3) the height of the top of the light above the workspace.

Input

Input to your program consists of a series of product information requests. Each request can be found on a line by itself and consists of 3 floating point numbers starting in column 1 and separated by single spaces. The first value is the minimum lumens/square inch ($0.00 < L \leq 1000.00$); the second value is the dispersal ratio of the light model in question ($0.00 < D \leq 10.00$); and the third value is the height in inches the light will be mounted above the working surface ($0.00 < H \leq 250.00$). You can be certain that:

1. There will be no invalid or extraneous input.
2. All input values will have exactly 2 digits to the right of the decimal (even if both are zero).
3. There will be no leading zeroes on any input value except in the case that the zero is the only digit to the left of the decimal.

Output

For each product information request, you should compute the required wattage of the light to satisfy the minimum lumens/square inch requirement. You should print the required wattage as a floating point number with at least one digit to the left of the decimal and exactly 2 digits to the right of the decimal (rounded to the nearest 0.01). No output value should have leading zeroes unless the zero is the only digit to the left of the decimal.

Example: Input File

```
3.10 1.11 124.00  
0.09 0.74 95.09  
853.67 0.01 243.19
```

Output to screen

```
13178.71  
100.00  
1132.93
```