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import math
#files containing python definition and modules
#The program should prompt the user for the following information


length = input("Enter length of side of garden in feet: ")
spacing = input("Enter spacing between plants in feet: ")
depth = input("Enter depth of the garden soil in feet: ")
fill = input("Enter depth of the fill in feet: ")

##Convert the input strings to numbers using float
length = float(length)
spacing = float(spacing)
depth = float(depth)
fill = float(depth)

#Reporting the first quantity
#Calculating the number of plants for semicircle type of flowerbed
#The formula for area of the circle is pi*square of the radius
#The number of plants in a semicircle may not be exactly half of the plants of the full circle
#For this we have to calculate the radius of the circle
radius = length / 4

#area is the area of the semicircle flowerbed
area = (math.pi * (radius**2)) / 2
#To estimate the number of the plants for a flowerbed,divide the area of the flowerbed by the
area needed per plant and then truncate this result
#semit is the result after truncation
semit = math.trunc(area / (spacing**2))

#Calculating the number of plants for circle type of flowerbed
area = math.pi * (radius**2)
#circt is the result after truncation
circt = math.trunc(area / (spacing**2))


#Total number of plants for the garden
#tp=total plants
tp = circt + (semit*4)


#Reporting the second quantity
#The soil for semicircle type of quantity
volume = (math.pi * (radius**2) * depth) / 2
#Converting to cubic yards
#cv is cubic volume yards
cv = volume / 27
#Using round() function
#cvrs is the cubic volume yards after rounding semicircle
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#1 because rounded to one decimal place
cvrs = round(cv, 1)

#The soil for circle type of quantity
volume = math.pi * (radius**2) * depth
##converting to cubic yards
cv = volume / 27
#cvrc is the cubic volume yards after rounding
cvrc = round(cv, 1)


#The total cubic yards of soil for the garden
total= (cvrs * 4) + cvrc
#The total rounding up
totalr = round(total, 1)

#Reporting third quantity
#The total cubic yards of fill material for the garden rounded to one decimal place
#Total volume denoted by tv
tv = (length**2) * fill
#Total volume by circle and semicircle and it is denoted by tcs
tcs = (math.pi * (radius**2) * depth) * 3
#Total volume fill denoted by tf
tf = tv - tcs
#total cubic fill denoted by ctf
ctf= tf / 27
#total cubic fill round and it is denoted ctfr
ctfr = round(ctf, 1)
#Printing Requirements
print("plants for each semicircle garden:",semit)
print("plants for the circle garden:",circt)
print("Total plants for garden:",tp)
print("Soil for each semicircle garden",cvrs)
print("Soil for the circle garden:",cvrc)
print("Total soil for the garden:",totalr)
print("Total fill for the garden:",ctfr)
```