2.2 Output

```
What is the cone's radius?
3.2
What is its height?
7
The volume of the cone is 75.06312046977213 cubic units
```

3 Problem to Compute the Sum of Interior Angles of a Regular Polygon

Create a computer program with an interactive capability to ask the user of the number of sides in a regular polygon, and thereafter the program will calculate the sum of the interior angles. (Sum of interior angles = (n-2)*180)

3.1 Program

```
sides_number = int(input("What is the number of sides of the polygon?\n"))

#int is a keyword specifying that only a data type of integer (whole number) is allowed

sum_of_angles = (sides_number-2)*180

print("The sum of interior angles is " + str(sum_of_angles) + "degrees")\n"))
```

3.2 Output

```
What is the number of sides of the polygon?
4
The sum of interior angles is 360 degrees
```


4 Problem to Solve the Pythagorean Theorem

The Pythagorean Theorem states that for a right angled triangle, the square of the hypotenuse (longest) side is equal to the sum of the squares of the other two (opposite and adjacent) sides. The problem is for you to develop a dynamic program that can calculate the any of the trio when you are given the other two sides. (The general formula for the hypotenuse = $\sqrt{opp^2 + adj^2}$)

4.1 Program

```
#1. Finding the hypotenuse side when the opposite and adjacent sides are known

import math

opp = float(input("What is the length of the opposite side?\n"))

adj = float(input("What is the length of the adjacent side?\n"))

hyp = math.sqrt(opp**2 + adj**2)
```