PPL Exercise 1: Python Introduction

1. Write a Python function named `area`, which accepts a parameter `r`, radius of a circle, and return the area of that circle

For example:

Test	Result

`res = area(1.1)`
`expect = 3.8013271108436504`
`delta = 0.000000001`
`print((res > expect - delta) and (res < expect + delta))`
	`True`

Hint: use math.pi from math modules to get the value of pi

2. Write a Python function `check(lst,n)` to test whether all numbers of the list `lst` is greater than `n`

For example:

Test	Result
`print(check([21,12,5,8],3))`	`True`

3. Write a Python function `gcd(a,b)` to return the greatest common divisor (GCD) of two positive integer parameters, use the result of `gcd(a,b)` to calculate `lcm(a,b)`

For example:

Test	Result
`print(gcd(24,36),lcm(24,36))`	`12 72`

4. Write a Python program which accepts a sequence of comma-separated numbers from user and generate a list and a tuple with those numbers.

For example:

Input	Result
`13,2,4,5`	`['13', '2', '4', '5']`

Input	Result
	`('13', '2', '4', '5')`

5. Write a Python function `product(lst)` to return the product of the list `lst` of integers

For example:

Test	Result
`print(product([3,4,7,11]))`	`924`

6. Write a Python function `sum_of_cube(n)` that takes a positive integer `n` and returns the sum of the cube of all the positive integers smaller than `n`.

For example:

Test	Result
`print(sum_of_cube(8))`	`784`