

# **Unit Tests for Non-default Constructor:**

- public void NonDefaultConstructor\_Input0\_ShouldWork()
   Input 0 : for 0 is a special number in all numbers
- public void NonDefaultConstructor\_InputMinus1\_ShouldThrowException()
   Input -1: for the radius of the circle cannot be less than 0

## Unit Tests for AddToRadius():

public void AddToRadius\_Input0\_RadiusDoesNotChange()
 Input 0: for 0 is a special number in all numbers
 Radius 99999999.99: a relatively large double to confirm a large number works

public void AddToRadius\_InputMinusNumberToMakeRadiusLessThanO\_ShouldThrowException()
 Input -999999999 : a relatively small minus number added to radius to make exception
 Radius 1 : for 1 is a special number that is the smallest positive integer

## Unit Tests for SubtractFromRadius():

public void SubtractFromRadius\_InputO\_RadiusDoesNotChange ()
 Input 0 : for 0 is a special number in all numbers
 Radius 0.00000001 : a relatively small double to confirm a small number works

## Unit Tests for GetCircumference ():

1. public void GetCircumference\_RadiusIsO\_ResultIsO() Input 0: for 0 is a special number in all numbers

2. public void GetCircumference\_RadiusIsPoint00000001\_ShouldPass ()
Input 0.0000001d : a relatively small number to confirm a small number works

#### Unit Tests for GetArea():

public void GetArea\_RadiusIsO\_ResultIsO()
 Input 0: for 0 is a special number in all numbers

2. public void GetArea\_RadiuslsMinus1\_ShouldThrowException ()

Input -1: for radius is a public variable in Circle class, it can be changed to an invalid value less than 0 by directly signing like "circle.radius = -1"