# Homework: Math for Developers

This document defines homework assignments from the [“C# Basics“ Course @ Software University](http://softuni.bg/courses/csharp-basics/). Please submit as homework a single txt/doc/docx file holding the answers of all below described problems.

## Some Primes

Find the 24th, 101st and 251st prime number.

**89, 547, 1597**

## Some Fibonacci Primes

Check if the 24th, 101st and 251st prime numbers are part of the base Fibonacci number set. What is their position?

**89 – Yes, 12th position**

**547 – No**

**1597 – Yes, 18th position**

## Some Factorials

Find 100!, 171! and 250! Give all digits.

**100! = 93326215443944152681699238856266700490715968264381621468592963895217599993229915608941463976156518286253697920827223758251185210916864000000000000000000000000**

**171! = 1241018070217667823424840524103103992616605577501693185388951803611996075221691752992751978120487585576464959501670387052809889858690710767331242032218484364310473577889968548278290754541561964852153468318044293239598173696899657235903947616152278558180061176365108428800000000000000000000000000000000000000000**

**250! = 3232856260909107732320814552024368470994843717673780666747942427112823747555111209488817915371028199450928507353189432926730931712808990822791030279071281921676527240189264733218041186261006832925365133678939089569935713530175040513178760077247933065402339006164825552248819436572586057399222641254832982204849137721776650641276858807153128978777672951913990844377478702589172973255150283241787320658188482062478582659808848825548800000000000000000000000000000000000000000000000000000000000000**

## Calculate Hypotenuse

You are given three right angled triangles. Find the length of their hypotenuses.

1. Catheti: 3 and 4 - **5**
2. Catheti: 10 and 12 – **15,6204993518**
3. Catheti 100 and 250 - **269,2582403567**

## Numeral System Conversions

Convert 1234d to binary and hexadecimal numeral systems.

**1234d = 10011010010 b = 4D2 hex**

Convert 1100101b to decimal and hexadecimal numeral systems.

**1100101b = 101 d = 65hex**

Convert ABChex to decimal and binary numeral systems.

**ABChex = 11010111100b = 2748d**

## Least Common Multiple

Find LCM(1234, 3456).

**2132352**