# 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.

**Solution:**

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?

**Solution:**

89 – yes; position 12th

547 – no;

1597 – yes; position 18th

## Some Factorials

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

**Solution:**

100! = 9,3326215443944152681699238856267e+157

171! = 1,2410180702176678234248405241031e+309

250! = 3,2328562609091077323208145520244e+492

## Calculate Hypotenuse

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

1. Catheti: 3 and 4
2. Catheti: 10 and 12
3. Catheti 100 and 250

|  |
| --- |
| **Solution**:  5 |
| 15,6205 |
| 269,2582 |

## Numeral System Conversions

Convert 1234d to binary and hexadecimal numeral systems.

Convert 1100101b to decimal and hexadecimal numeral systems.

Convert ABChex to decimal and binary numeral systems.

**Solution:**

1234d – 10011010010b –0x4D2

1100101b – 101d – 0x65

ABC - 2748 – 1010 1011 1100

## Least Common Multiple

Find LCM(1234, 3456).

**Solution:**

**2132352**