# 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.

24th = 89

101st = 547

251st = 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?

24th = yes. Position: 11

101st = no

251st = yes. Position: 17

## Some Factorials

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

**100!** = 933262154439441526816992388562667004907159682643816214685929

638952175999932299156089414639761565182862536979208272237582

51185210916864000000000000000000000000

**171!** = 124101807021766782342484052410310399261660557750169318538895

180361199607522169175299275197812048758557646495950167038705

280988985869071076733124203221848436431047357788996854827829

075454156196485215346831804429323959817369689965723590394761

615227855818006117636510842880000000000000000000000000000000

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**250! =** 323285626090910773232081455202436847099484371767378066674794

242711282374755511120948881791537102819945092850735318943292

673093171280899082279103027907128192167652724018926473321804

118626100683292536513367893908956993571353017504051317876007

724793306540233900616482555224881943657258605739922264125483

298220484913772177665064127685880715312897877767295191399084

437747870258917297325515028324178732065818848206247858265980

884882554880000000000000000000000000000000000000000000000000

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## Calculate Hypotenuse

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

1. Catheti: 3 and 4

1.1 Hypotenuse: 5

1. Catheti: 10 and 12

2.1 Hypotenuse: 15.6204993518

1. Catheti 100 and 250

3.1 Hypotenuse: 269.258240357

## Numeral System Conversions

Convert 1234d to binary and hexadecimal numeral systems.

Binary: 10011010010 Hex: 4D2

Convert 1100101b to decimal and hexadecimal numeral systems.

Decimal: 101 Hex: 65

Convert ABChex to decimal and binary numeral systems.

Decimal: 2748 Binary: 101010111100

## Least Common Multiple

Find LCM(1234, 3456).

LCM: **2132352**