# 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.

Answer: 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? T

Answer:

The 24th prime is 89 which is a Fibonacci number. The 11th Fibonacci number .

The 101st prime is 547 which is not a Fibonacci number.

The 251st prime is 1597 which is a Fibonacci number. The 17th Fibonacci number .

## Some Factorials

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

Answer:

100! = 933262154439441526816992388562667004907159682643816214685929

638952175999932299156089414639761565182862536979208272237582

51185210916864000000000000000000000000

171! = 124101807021766782342484052410310399261660557750169318538895

180361199607522169175299275197812048758557646495950167038705

280988985869071076733124203221848436431047357788996854827829

075454156196485215346831804429323959817369689965723590394761

615227855818006117636510842880000000000000000000000000000000

0000000000

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 Answere: 5
2. Catheti: 10 and 12 Answere: 15.6204993518133
3. Catheti 100 and 250 Answere: 269.258240356725

## 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.

Answer:

1234d = 10011010010b = 4D2hex

1100101b = 65hex = 101d

ABChex = 2748d = 101010111100b

## Least Common Multiple

Find LCM(1234, 3456).

Aswer: The LCM is: 2132352