Homework - Mathematics for programmers

1.

24th -> 89

101th -> 547

251th -> 1597

2.

89 – yes – 12th

547 – no

1597 – yes – 18th

3.

100! = 93326215443944152681699238856266700490715968264381621468592963895217599993229915

608941463976156518286253697920827223758251185210916864000000000000000000000000

171! = 12410180702176678234248405241031039926166055775016931853889518036119960752216917

52992751978120487585576464959501670387052809889858690710767331242032218484364310

47357788996854827829075454156196485215346831804429323959817369689965723590394761

6152278558180061176365108428800000000000000000000000000000000000000000

250! =

32328562609091077323208145520243684709948437176737806667479424271128237475551112

09488817915371028199450928507353189432926730931712808990822791030279071281921676

52724018926473321804118626100683292536513367893908956993571353017504051317876007

72479330654023390061648255522488194365725860573992226412548329822048491377217766

50641276858807153128978777672951913990844377478702589172973255150283241787320658

18848206247858265980884882554880000000000000000000000000000000000000000000000000

0000000000000

4.

1st hypotenuse = 5

2nd hypotenuse = 2\*sqrt(61)

3rd hypotenuse = 50\*sqrt(29)

5.

1234d = 10011010010b

1234d = 4D2hex

1100101b = 101d

1100101b = 65hex

ABChex = 2748d

ABChex=101010111100b

6.

LCM(1234, 3456) = 2132352