Homework

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Problem1: Some Primes

The 24th Prime is 89

The 101st Prime is 547

The 251st Prime is 1597

Problem2: Some Fibonacci Primes

The 24th prime 89, is in Fibonacci’s list at 11th position.

The 101st prime 547, is not in Fibonacci list.

The 251st prime 1597, is in Fibonacci’s list at 17th position.

Problem3: Some Factorials

n!=100!=100\*99\*98\*97\*96\*95\*94\*93\*92[…]\*1=9.332621544E+157=93326215443944152681699238856266700490715968264381621468592963895217599993229915608941463976156518286253697920827223758251185210916864000000000000000000000000

n!=171!=171\*169\*168\*167[…]\*1= 1.24101807 E+309 = 1241018070217667823424840524103103992616605577501693185388951803611996075221691752992751978120487585576464959501670387052809889858690710767331242032218484364310473577889968548278290754541561964852153468318044293239598173696899657235903947616152278558180061176365108428800000000000000000000000000000000000000000

n!=250!=250\*249\*248\*247[…]\*1= 3.23285626 E+492= 3232856260909107732320814552024368470994843717673780666747942427112823747555111209488817915371028199450928507353189432926730931712808990822791030279071281921676527240189264733218041186261006832925365133678939089569935713530175040513178760077247933065402339006164825552248819436572586057399222641254832982204849137721776650641276858807153128978777672951913990844377478702589172973255150283241787320658188482062478582659808848825548800000000000000000000000000000000000000000000000000000000000000

Problem4: Calcilate Hypotenuse

Formula: AC 2 = (AB 2 + BC 2)

1. Catheti: 3 and 4 = 5

2. Catheti: 10 and 12 = 15.62049935181331

3. Catheti 100 and 250 = 269.2582403567252

Problem5: Numeral System Conversion

1234d to binary:   1234:2=617(0)  
                    617:2=308(1)  
                    308:2=154(0)  
                    154:2=77 (0)  
                     77:2=38 (1)  
                     38:2=19 (0)   \_\_\_\_ 10011010010  
                     19:2=9  (1)  
                      9:2=4  (1)  
                      4:2=2  (0)  
                      2:2=1  (0)  
                      1:2=0  (1)  
  
  
1234d to hexadecimal: 1234:16=77(2)  
                        77:16=4 (D) ------ 4D2  
                         4:16=0 (4)  
  
  
1100101b to decimal: 1×2⁶+1×2⁵+0×2⁴+0×2³+1×2²+0×2¹+1×2⁰ = 101  
1100101b to Hex:  64  
  
  
ABChex to decimal:10×16²+11×16¹+12×16⁰ = 2748  
ABChex to binary :101010111100

Problem6: LCM

Find LCM(1234, 3456).

Find LCM by GCD (Greatest Common Divisor)

LCM(a,b) = (a\*b)/GCD(a,b).

LCM(1234, 3456) = (1234\*3456)/2= 4264704/2=2132352