Computer Organization
Homework #1

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Answer of Question 1)

Firstly , The yield today %80 , So 120 * 0,8 = 96 processor is today
Year by year yield decreases %10 So
After one year, 96 * 0,9 = 86,4
After two year , 86,4 * 0,9 = 77,76
After three year , 77,76 * 0,9 = 69,984
After four year , 68,984 * 0,9 = 62,9856 processor

cost after 4 year 10000*0,8*0,8*0,8*0,8 = 4096 $

a single chip cost 4096/62,9856 = 65,03 $

Answer of Question 2)

A)

50 * 2 + 10 * 4 + 2 * 3 = 146 x 10^6 cycle for compiler A

80 * 2 + 5 * 4 + 1 * 3 = 183 x 10^6 cycle for compiler B

To find better compiler we can look the cycle number and less cycle number is better. So Compiler A is better compiler than compiler B.
Answer is Compiler A
How many times it is better = 183*10^6 /146*0^6 = 1,2534
Compiler A is 1,2534 times better than Compiler B

B)

 x is clock speed
146 x 10^6 / x = 0.1 second (100 ms)
146 x 10^7 = x
1.46 Ghz =x
The answer is 1.46 Ghz