1.

$$\text{Cost per die} = \frac{\text{Cost per wafer}}{\text{Dies per wafer} \times \text{yield}}$$

After Year 1 ➔ CPD = $\frac{8000\$}{120*0.7}$ = 46,66

After Year 2 ➔ CPD = $\frac{6400\$}{120*0.6}$ = 32

After Year 3 ➔ CPD = $\frac{5120\$}{120*0.5}$ = 21,33

After Year 4 ➔ CPD = $\frac{4096\$}{120*0.4}$ = 13,653

2.

a.

Compiler A	Compiler B
IC = 50+10+2 = **62 instructions** **Clock Cycles** = 2*50+4*10+3*2 = **146*10^6** **CPI =** 146/62 = 2,35	**IC** = 80+5+1 = **86 instructions** **Clock Cycles** = 2*80+4*5+3*1 = **183*10^6** **CPI =** 183/86 = 2,12

$\frac{183}{146}$ = 1.25 times

Compiler **A** 1.25 times faster than Compiler **B**.

b.

146.000.000*(clk speed) = 100 ms

Clk speed = **146 Ghz**