Q1) The computer converts the virtual address into binary form which then allows the software to utilize it for it to access the page table. Using the binary form, it can retrieve the page number and the offset to locate the table entry. Then the information in the table entry can be used by the computer to calculate and find the physical address.

Q2)

Effective Access Time = Page fault rate(Modified page rate * Modified page server rate + (1-Modifed page rate* Unmodified page server rate) + (1 – Page fault rate) * Memory access time

200ns = P * (0.7*20ms + 0.3*8ms) + (1-P) * 100ns

200ns = P * (14x$10^6 ns$+2.4*$10^6 ns$) + (1-P) * 100ns

100ns = P * (16.4*$10^6 ns$) - 100ns P

1 = 16399 * P

P = $\frac{1}{16399} = 6.1 * 10^{-6}$