

1) ints are 4 bytes, p is  $4 * 1024 = 4kB$

If they align onto a page boundary there are 4 pages, otherwise there are 5 pages.

Thus, there are 4-5 misses + the rest are hits

2) Address: <u>0x027C</u>	<u>0x03a9</u>	<u>0x0040</u>
A: <u>0000100111100</u>	<u>00001110101001</u>	<u>00000001000000</u>
B: vpn: 0x9	0xE	0x1
TLBI: 0x1	0x2	0x1
TLBT: 0x2	0x3	0x0
hit: N	N	N
fault: N	N	Y
PPN: 0x17	0x11	-
C: <u>01011111100</u>	<u>010001101001</u>	N/A
D BO: 0x0	0x1	
CI: 0xf	0xa	
CT: 0x17	0x11	N/A
hit: N	N	
CB: -	-	



$$\begin{aligned}
 3) \quad \text{Time} &= T_t + T_m + P_t * (T_m + P_f (T_d + P_d * T_d)) \\
 &= 0 + 1\mu s + 0.1 (1\mu s + 0.0002 (10\text{ms} + 0.5 * 10\mu s)) \\
 &= 1 + 0.1(1 + 0.0002(15000)) \\
 &= 1 + 0.1(3) \\
 &= 1.4\mu s
 \end{aligned}$$