

## In-Class Problems: Address Translation on the MIPS

Suppose that the TLB in the MIPS MMU contains the following entries. For each entry, only the virtual page number and physical frame number are shown. Assume that all of the entries are valid. The page size on the MIPS is 4KB.

entry number	virtual page number	frame number
0	0x10000	0x08343
1	0x10004	0x08344
2	0x00400	0x0100a
3	0x7ffff	0x01112
4	0x7fffe	0x01113
5	0x00402	0x0600b
6	0x00404	0x01114

For each of the following *physical* addresses, indicate which virtual addresses will translate to that physical address. If more than one virtual address translates to a physical address, list them all.

a. (3 marks) 0x01113fa0

b. (3 marks) 0x0100a088

c. (3 marks) 0x0100b014

d. (3 marks) 0x08343ffc