Computer Systems Organisation
Recitation 12

Problem 1:

Complete the following table, filling in the missing entries and replacing each question mark with the appropriate integer. Use the following units: $K = 2^{10}$ (Kilo), $M = 2^{20}$ (Mega), $G = 2^{30}$ (Giga), $T = 2^{40}$ (Tera), $P = 2^{50}$ (Peta), or $E = 2^{60}$ (Exa).

# virtual address bits (n)	# virtual addresses (N)	Largest possible virtual address
8		
	$2^{?} = 64K$	
		$2^{32} - 1 = \ ?G - 1$
	$2^{?} = 256T$	
64		

Problem 2:

Determine the number of page table entries (PTEs) that are needed for the following combinations of virtual address size (n) and page size (P).

n	$P = 2^p$	# PTEs
16	4K	
16	8K	
32	4K	
32	8K	