CS 3733 Review Problem: Paging in the PDP 11

1) Consider the following information about the PDP-11 paged memory without virtual memory.
   i) the machine had a word size of 16 bits.
   ii) a logical address was 16 bits, representing the address of a word.
   iii) program and data used separate logical address spaces.
   iv) the machine supported up to 4M words of memory
   v) the page size was 8K words
   vi) each process was assumed to use its entire address space.

   Answer the following questions:

   a) How many bits of the logical address are used for the page number? a) _____

   b) How many bits of the logical address are used for the page offset? b) _____

   c) How many words of physical memory did a single program use? c) _____

   d) How many bits does a physical address have? d) _____

   e) How many bits of the physical address are used for the frame number? e) _____

   f) How many bits of the physical address are used for the frame offset? f) _____

   g) How many processes could be in physical memory at one time? g) _____

   h) How many page table entries did a process have? h) _____

   i) How many bits in a page table entry? i) _____

   j) This machine did not use a TLB. Why? j) _____

   k) Where was the page table for a given process stored? k) _____