8-9 Design a $512K \times 16$ RAM memory using $64K \times 8$ RAM chips and a decoder.

(a) How many $64K \times 8$ RAM chips are required for the $512K \times 16$ memory?
(b) Specify the size of the decoder.
(c) How many address lines are required to access the $512K \times 16$ memory?
(d) How many of these lines are connected to the address inputs on all of the $64K \times 8$ RAM chips?
(e) How many lines must be decoded to produce the chip select inputs?
(f) Draw a logic diagram of the memory?