**Self-Assessment 3-4**

4. How many address lines and data output lines are required for a 64K word x 16 bits/word ROM? How many bytes can this memory store?

Draw a block diagram showing all pins to the bus that connects the ROM to the outside world.

**Answer**

***Please maximize your window to see the answer clearly.***

The number of address lines and data output lines required for a 64K word x 16 bits/word ROM are shown below:

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | **Address Lines** | **Data Output Lines** |
| 64K x 16 = 216 x 16 |  | 16 | 16 |
|  |  |  |  |
| (64K words x 16 bits per word) 8 bits/byte | = 217 = 128 Kbytes |  |  |

The following block diagram shows the pins to the bus that connects the ROM to the outside world:

