

## Chapters 1-10:

N/A

## Chapter 11:

1. AND gate: When both inputs are on, an output is produced.
2. OR gate: When either inputs are on, an output is produced.
3. NOR gate: When both inputs are off, an output is produced.
4. NAND gate: When either input is off, an output is produced.

## Chapter 12:

1. 2 sub-components, 2 inputs, 2 outputs.
2. 5 sub-components, 3 inputs, 2 outputs.
3. 16 inputs, 9 outputs.
4. 144.

## Chapter 15:

1. 8 bits.
2. An unsigned byte can range from 0 to 255, a signed 2's complement byte ranges from -128 to 127.
3. A binary number 0 or 1.
4. Hexadecimal, often shortened to Hex.
5. It perfectly divides a byte into 2 pieces
6. AC3h, you can use a table and split the binary number into 4bit pieces that can more easily be converted.
7. A hex number 0-F.
8. Take the number you want to convert and divide it by the base you want to convert to, the remainder is the farthest right digit in the new base, repeat the process with the number gotten from dividing, with each new remainder being one digit further left in the new base.

## Chapter 16:

1.
  - a. Kilo: 1,024, Mega: 1,048,576, Giga: 1,073,741,824, Tera: 1,099,511,627,776, Peta: 1,125,899,906,842,624.
  - b. Kilo comes from khilioi, meaning 1000, Mega comes from megas, which means "great", Giga comes from gigas, meaning "giant", Tera comes from teras, meaning "monster".
2. Even though the relays aren't shown, they're still there and require constant power to function, meaning RAM needs to have constant power, otherwise it loses its contents.