floatingpoint.pdf, Patrick Anderson psa5dg, 2/17/16

35.3125

- Sign
    - Positive, meaning the first bit is 0.

- Exponent
    - $35.3125/2^5 = 1.103515625$
    - $2^5 \rightarrow 5+127 = 132$
    - 132 in binary is 1000 0100.

- Mantissa
    - $1.103515625 - 1 = 0.103515625$.
    - $0.103515625 = 1/16 + 1/32 + 1/128 + 1/512$.
    - The binary for this is 0001 1010 1 (with trailing 0's).

- Total: 0100 0010 0000 1101 0100 0000 0000 0000
- Hex Conversion: 0x42.0d.40.00
- Little Endian Conversion: 0x00400d42

0x00.40.1e.c3

- Big Endian Conversion: 0xc31e4000
- Binary Conversion: 1100 0011 0001 1110 0100 0000 0000 0000

- Sign
    - The first bit is 1, meaning it's negative.

- Exponent
    - 1000 0110 is 134 in base 10.
    - $134-127 = 7$.
    - 2^7.

- Mantissa
    - 0011 1100 1000 0000 0000 000
    - $1/8 + 1/16 + 1/32 + 1/64 + 1/512 = 0.236328125$
    - $0.236328125 + 1 = 1.236328125$.

- Result
    - $-1.236328125 \times 2^7 = -158.25$