

Convert to 2's Complement:

1) 2's complement doubleword-length: 32767

$$= \boxed{00000000} \boxed{00000000} \boxed{01111111} \boxed{11111111} = 7FFF \#$$

2) word-length: -235

$$= \boxed{11111111} \boxed{00010101} = FF15 \#$$

$$235 = 00000000 \ 1110 \ 1011$$

$$-235 = 11111111 \ 0001 \ 0100$$

$$\begin{array}{r} 11111111 \ 0001 \ 0100 \\ + 1 \\ \hline 11111111 \ 0001 \ 0101 \end{array}$$

3) byte-length: -78

$$= \boxed{10110010} \# = B2$$

$$78 = 0100 \ 1110$$

$$-78 = 1011 \ 0001$$

$$\begin{array}{r} 1011 \ 0001 \\ + 1 \\ \hline 1011 \ 0010 \end{array}$$

Interpret numbers in 2's complement or unsigned form:

1) 2's Complement: FF FF FE 03 \rightarrow 1111 1111 1111 1111 1111 1110 0000 0011

$$4,294,966,786 \# = \begin{array}{r} 1111 \ 1111 \ 1111 \ 1111 \ 1111 \ 1110 \ 0000 \ 0010 \\ - 1 \\ \hline \end{array}$$

2) Unsigned: 562B 7F 1E = 1,445,691,166 #

3) 2's Complement: B64A \rightarrow 1011 0110 0100 1010

$$\begin{array}{r} 1011 \ 0110 \ 0100 \ 1010 \\ - 1 \\ \hline 1011 \ 0110 \ 0100 \ 1001 = 46,665 \# \end{array}$$

4) Unsigned: AB 05 = 43,781 #

5) 2's Complement: 7C $\xrightarrow{\text{the}}$ 0111 1100 \rightarrow 124 #

6) Unsigned: 95 = 149 #