#1. Show the representation of \(-222_{10}\) in the following representation schemes (assume 16-bit words):

a) sign magnitude

b) one’s-complement

c) two’s complement

#2. Convert \(373_{10}\) into (assume 16-bit words):

a) binary

b) octal

c) hexadecimal

#3. Fill in the CC bits for the following addition instructions (8-bit two’s-complement numbers):

\[
\begin{array}{c}
11110110 \\
+ 00001010 \\
\hline
\end{array}
\begin{array}{c}
10101010 \\
+ 10011001 \\
\hline
\end{array}
\]

\[
\begin{array}{cccc}
N & Z & V & C \\
\hline
| & | & | & | \\
\hline
\end{array}
\begin{array}{cccc}
N & Z & V & C \\
\hline
| & | & | & | \\
\hline
\end{array}
\]

(over)
#4. Powers of 2

\[ 64 \text{G} = 2^{___} \]

\[ 2^{19} = _____ \] (in terms of K, M, G, etc.)

#5. List the order of the stages of the compilation process discussed in class:

A - cpp (C Preprocess)
B - ccomp (C Compiler)
C - ld (Linkage Editor)
D - exe/a.out (executeable image)
E - as (assembler)

% cc/gcc file.c --> _____ --> _____ --> _____ --> _____ --> _____