#1. Show the representation of $-293_{10}$ in the following representation schemes (assume 16-bit words):

a) sign magnitude

b) one’s-complement

c) two’s complement

#2. Convert $362_{10}$ into (assume 16-bit words):

a) binary

b) octal

c) hexadecimal

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

\[
\begin{array}{c}
10110110 \\
+ 11001010 \\
\hline
\end{array}
\quad
\begin{array}{c}
00101010 \\
+ 01011001 \\
\hline
\end{array}
\]

\[
\begin{array}{cccccc}
N & Z & V & C \\
\hline
| & | & | & | \\
\hline
(over)
\end{array}
\]
#4. Powers of 2

\[ 128K = 2^{10} \]

\[ 2^{24} \] = _______ (in terms of K, M, G, etc.)

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

A - ld (Linkage Editor)
B - exe/a.out (Executable image)
C - ccomp (C Compiler)
D - as (Assembler)
E - cpp (C Preprocessor)

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