#1. Show the representation of $-253_{10}$ in the following representation schemes (assume 12-bit words):

a) sign magnitude

b) one’s-complement

c) two’s complement

#2. Convert $411_{10}$ into (assume 12-bit words):

a) binary

b) octal

c) hexadecimal

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

\[
\begin{array}{c}
00111001 \\
+ 01010111 \\
\hline
\end{array} \quad \begin{array}{c}
10110110 \\
+ 01001010 \\
\hline
\end{array}
\]

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

(over)
#4. Powers of 2

\[ 32\text{K} = 2^{______} \]

\[ 2^{27} = ______ \] (in terms of K, M, G, etc.)

#5. The SPARC architecture is an example of a __________ architecture. The only two instructions that access memory are _________ and _________.