#1. Show the representation of \(-284_{10}\) in the following representation schemes (assume 16-bit words):

a) sign magnitude

b) one’s-complement

c) two’s complement

#2. Convert \(635_{10}\) 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):

\[
\begin{array}{cc}
10110110 & 11101010 \\
+ 11001010 & + 00011001 \\
\hline
\end{array}
\]

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

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

(over)
#4. Powers of 2

\[ 8G = 2^{30} \]

\[ 2^{25} = \boxed{\quad \quad} \] \hspace{1cm} (in terms of K, M, G, etc.)

#5. In a Little-Endian architecture, show how the bytes are laid out in memory for the following statement (write the hexadecimal values of the bytes in the appropriate memory locations):

```
long shot = 0x12345678;
```

What is the hex value of the most significant byte? \boxed{\quad \quad}