#1. Show the representation of -233$_{10}$ in the following representation schemes (assume 16-bit words):

a) sign magnitude

b) one’s-complement

c) two’s complement

#2. Convert 345$_{10}$ 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):

\[
\begin{array}{c}
00110110 \\
+ 01001010 \\
\hline
\end{array}
\quad
\begin{array}{c}
11101010 \\
+ 10011001 \\
\hline
\end{array}
\]

<table>
<thead>
<tr>
<th>N</th>
<th>Z</th>
<th>V</th>
<th>C</th>
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(over)
#4. Powers of 2

$16G = 2^{___}$

$2^{23} = _____$ (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):

```plaintext
long shot = 0xDEADBEEF;
```

What is the hex value of the most significant byte? _____