

**L4 practice problems****Answers:**

(a) (hexadecimal)

$$\begin{array}{r}
 \textcolor{blue}{1} \\
 1010 \\
 + 0011 \\
 \hline
 1101 \\
 \hline
 \end{array}
 \qquad
 \begin{array}{r}
 A \\
 + 3 \\
 \hline
 D \\
 \hline
 \end{array}$$

(b) (hexadecimal)

$$\begin{array}{r}
 \textcolor{blue}{1} \\
 1000 \\
 + 1011 \\
 \hline
 0011 \\
 \hline
 \end{array}
 \qquad
 \begin{array}{r}
 8 \\
 + B \\
 \hline
 13 \\
 \hline
 \end{array}$$

	Signed decimal	Unsigned binary	sign-magnitude representation	2's complement representation
a	-127	111 1111	<u>1</u> 111 1111	<u>1</u> 000 0001
b	-112	111 0000	<u>1</u> 111 0000	<u>1</u> 001 0000
c	-60	11 1100	<u>1</u> 11 1100	<u>1</u> 00 0100
d	-30	1 1110	<u>1</u> 1 1110	<u>1</u> 0 0010
e	30	1 1110	<u>0</u> 1 1110	<u>0</u> 1 1110
f	60	11 1100	<u>0</u> 11 1100	<u>0</u> 11 1100
g	112	111 0000	<u>0</u> 111 0000	<u>0</u> 111 0000
h	127	111 1111	<u>0</u> 111 1111	<u>0</u> 111 1111