Number Systems and Arithmetic

Part A Convert the following numbers from one notation to another.

$765.321_8 = $ _____ $_{16}$

$BC.A_{16} = $ _____ $_{10}$

$99.625_{10} = $ _____ $_2$

$2^{23} = $ _____ $_{10}$

Part B For each problem, (a) compute the operation using the rules of addition, expressing your answer in binary notation, (b) indicate whether an error occurs assuming all numbers are expressed using a **six** bit, two's compliment representation, and (c) indicate whether an error occurs assuming all numbers are expressed using a **six** bit, unsigned binary representation. All number are expressed in binary notation.

$$
\begin{array}{r}
1\ 0\ 1\ 0\ 0\ 1 \\
+\ 1\ 0\ 1\ 1\ 1\ 0 \\
\hline
\end{array}
\qquad
\begin{array}{r}
1\ 1\ 0\ 1 \\
+\ 1\ 0\ 1\ 1 \\
\hline
\end{array}
\qquad
\begin{array}{r}
1\ 1\ 0\ 1\ 1 \\
+\ 1\ 1\ 0\ 1\ 0\ 1 \\
\hline
\end{array}
\qquad
\begin{array}{r}
1\ 1\ 0\ 1\ 1 \\
+\ 1\ 1\ 0\ 1\ 1 \\
\hline
\end{array}
$$

signed error? _____   signed error? _____   signed error? _____   signed error? _____

unsigned error? _____   unsigned error? _____   unsigned error? _____   unsigned error? _____