



# 2's-Complement Add & Subtract Examples



(a)	$\begin{array}{r} 0010 \\ + 0011 \\ \hline 0101 \end{array}$	$\begin{array}{r} (+2) \\ (+3) \\ \hline (+5) \end{array}$	(b)	$\begin{array}{r} 0100 \\ + 1010 \\ \hline 1110 \end{array}$	$\begin{array}{r} (+4) \\ (-6) \\ \hline (-2) \end{array}$
(c)	$\begin{array}{r} 1011 \\ + 1110 \\ \hline 1001 \end{array}$	$\begin{array}{r} (-5) \\ (-2) \\ \hline (-7) \end{array}$	(d)	$\begin{array}{r} 0111 \\ + 1101 \\ \hline 0100 \end{array}$	$\begin{array}{r} (+7) \\ (-3) \\ \hline (+4) \end{array}$
(e)	$\begin{array}{r} 1101 \\ - 1001 \\ \hline \end{array}$	$\begin{array}{r} (-3) \\ (-7) \\ \hline \end{array}$	$\Rightarrow$	$\begin{array}{r} 1101 \\ + 0111 \\ \hline 0100 \end{array}$	$\begin{array}{r} \\ \\ \hline (+4) \end{array}$
(f)	$\begin{array}{r} 0010 \\ - 0100 \\ \hline \end{array}$	$\begin{array}{r} (+2) \\ (+4) \\ \hline \end{array}$	$\Rightarrow$	$\begin{array}{r} 0010 \\ + 1100 \\ \hline 1110 \end{array}$	$\begin{array}{r} \\ \\ \hline (-2) \end{array}$
(g)	$\begin{array}{r} 0110 \\ - 0011 \\ \hline \end{array}$	$\begin{array}{r} (+6) \\ (+3) \\ \hline \end{array}$	$\Rightarrow$	$\begin{array}{r} 0110 \\ + 1101 \\ \hline 0011 \end{array}$	$\begin{array}{r} \\ \\ \hline (+3) \end{array}$
(h)	$\begin{array}{r} 1001 \\ - 1011 \\ \hline \end{array}$	$\begin{array}{r} (-7) \\ (-5) \\ \hline \end{array}$	$\Rightarrow$	$\begin{array}{r} 1001 \\ + 0101 \\ \hline 1110 \end{array}$	$\begin{array}{r} \\ \\ \hline (-2) \end{array}$
(i)	$\begin{array}{r} 1001 \\ - 0001 \\ \hline \end{array}$	$\begin{array}{r} (-7) \\ (+1) \\ \hline \end{array}$	$\Rightarrow$	$\begin{array}{r} 1001 \\ + 1111 \\ \hline 1000 \end{array}$	$\begin{array}{r} \\ \\ \hline (-8) \end{array}$
(j)	$\begin{array}{r} 0010 \\ - 1101 \\ \hline \end{array}$	$\begin{array}{r} (+2) \\ (-3) \\ \hline \end{array}$	$\Rightarrow$	$\begin{array}{r} 0010 \\ + 0011 \\ \hline 0101 \end{array}$	$\begin{array}{r} \\ \\ \hline (+5) \end{array}$