

-128	64	32	16	8	4	2	1

(a) An eight-position two's complement value box

-128	64	32	16	8	4	2	1
1	0	0	0	0	0	1	1

$$-128 \qquad \qquad \qquad +2 \quad +1 = -125$$

(b) Convert binary 10000011 to decimal

-128	64	32	16	8	4	2	1
1	0	0	0	1	0	0	0

$$-120 = -128 \qquad \qquad \qquad +8$$

(c) Convert decimal -120 to binary

Figure 9.2 Use of a Value Box for Conversion Between Twos Complement Binary and Decimal