

**Answers**

1. (b) 1.61 V (c) 1.79 V

2.

3. If AB controls the MUX:  $D_0 = \overline{C}$ ,  $D_1 = C + D$ ,  $D_2 = \overline{C}D + C\overline{D}$ ,  $D_3 = C$

$$J_2 = G_1 \cdot \overline{G_0}$$

$$K_2 = \overline{G_2}$$

$$J_2 = \overline{G_2}$$

$$K_2 = G_2 \cdot \overline{G_1} \cdot \overline{G_0}$$

$$J_1 = \overline{G_2} \cdot G_0$$

$$K_1 = G_2 \cdot G_0$$

$$J_0 = G_1 \cdot G_2 + \overline{G_2} \cdot \overline{G_1} \cdot G_2$$

$$K_0 = G_2 \cdot \overline{G_1} + \overline{G_2} \cdot G_1$$

4.  $T_C = B$ ,  $T_B = A + B$ ,  $T_A = \overline{A} \cdot \overline{C} + A \cdot C = A \oplus C$