

(a) First extreme position, $\theta_2 = 209^\circ$

(b) Second extreme position, $\theta_2 = 19^\circ$

$$O_2O_4 = 1.00$$
 $L_2 = 0.450$ $L_3 = 0.990$ $L_6 = 0.325$ $L_7 = 0.938$ $L_8 = 0.572$ $CD = 0.325$ $CE = 1.145$ $DE = 0.823$ $O_4O_6 = 0.419$ $O_4B = O_4C = 0.590$

FIGURE 3-36

Eightbar linkage with ±360° oscillatory rotation of link 8 when crank 2 revolves fully (Source: Hain⁽²²⁾ pp. 368-370)

- 6-78 Figure 3-36 (p. 144) shows an eightbar mechanism. Find all its instant centers in the position shown in part (a) of the figure.
- 6-79 Write a computer program or use an equation solver such as *Mathcad, Matlab*, or *TKSolver* to calculate and plot the angular velocity of link 8 in the linkage of Figure 3-36 (p. 144) as a function of θ_2 for a constant $\omega_2 = 1$ rad/sec CCW.