



(a) Extreme CCW position of link 6

(b) Mid position of link 6

(c) Extreme CW position of link 6

$O_4O_6 = 1.00$	$L_3 = AB = 4.248$	$L_6 = 1.542$	$DB = 3.274$
$L_2 = 1.556$	$L_4 = 2.125$	$CD = 2.158$	$\angle CDB = 36^\circ$

FIGURE 3-34

Stephenson's III sixbar with 180° oscillation of link 6 when crank 2 revolves fully (Source: Hain⁽²²⁾, pp. 448-450)

7-63 Find the angular acceleration of link 6 of the linkage in Figure 3-34 part (b) (p. 143) for the position shown ($\theta_6 = 90^\circ$ with respect to the x-axis) assuming constant $\omega_2 = 10$ rad/sec CW.

- a. Using a graphical method.
- †b. Using an analytical method.

†7-64 Write a computer program or use an equation solver such as *Mathcad*, *Matlab*, or *TKSolver* to calculate and plot the angular acceleration of link 6 in the sixbar linkage of Figure 3-34 as a function of θ_2 for a constant $\omega_2 = 1$ rad/sec CW.

† These problems are suited to solution using *Mathcad*, *Matlab*, or *TKSolver* equation solver programs.