



**FIGURE P6-4**

Configuration and terminology for problems 6-10 to 6-11

- \*6-10 The general linkage configuration and terminology for a geared fivebar linkage are shown in Figure P6-4. The link lengths, gear ratio ( $\lambda$ ), phase angle ( $\phi$ ), and the values of  $\theta_2$  and  $\omega_2$  are defined in Table P6-4. For the row(s) assigned, draw the linkage to scale and find  $\omega_3$  and  $\omega_4$  using a graphical method.
- \*†6-11 Repeat Problem 6-10 using an analytical method. Draw the linkage to scale and label it before setting up the equations.

\* Answers in Appendix F.

† These problems are suited to solution using *Mathcad*, *Matlab*, or *TKSolver* equation solver programs. Your solution can be checked with program FIVEBAR.

**TABLE P6-4 Data for Problems 6-10 to 6-11**

Row	Link 1	Link 2	Link 3	Link 4	Link 5	$\lambda$	$\phi$	$\omega_2$	$\theta_2$
a	6	1	7	9	4	2	30	10	60
b	6	5	7	8	4	-2.5	60	-12	30
c	3	5	7	8	4	-0.5	0	-15	45
d	4	5	7	8	4	-1	120	24	75
e	5	9	11	8	8	3.2	-50	-50	-39
f	10	2	7	5	3	1.5	30	-45	120
g	15	7	9	11	4	2.5	-90	100	75
h	12	8	7	9	4	-2.5	60	-65	55
i	9	7	8	9	4	-4	120	25	100