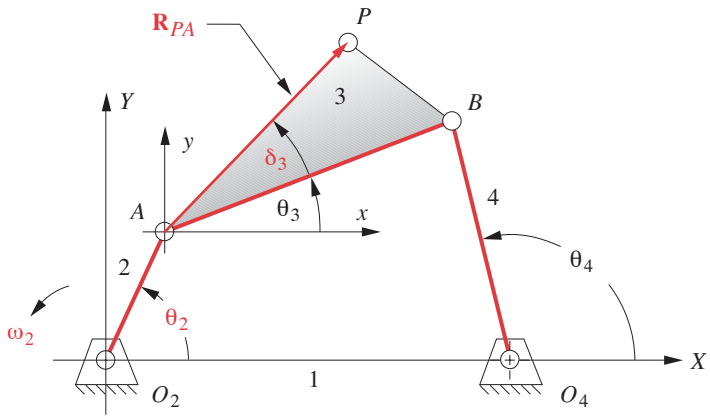

FIGURE P6-1

Configuration and terminology for the pin-jointed fourbar linkage of Problems 6-4 to 6-5

*6-4 A general fourbar linkage configuration and its notation are shown in Figure P6-1. The link lengths, coupler point location, and the values of θ_2 and ω_2 for the same fourbar linkages as used for position analysis in Chapter 4 are redefined in Table P6-1, which is the same as Table P4-1. *For the row(s) assigned*, draw the linkage to scale and find the velocities of the pin joints *A* and *B* and of instant centers $I_{1,3}$ and $I_{2,4}$ using a graphical method. Then calculate ω_3 and ω_4 and find the velocity of point *P*.

*†6-5 Repeat Problem 6-4 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 FOURBAR.

TABLE P6-1 Data for Problems 6-4 to 6-5

Row	Link 1	Link 2	Link 3	Link 4	θ_2	ω_2	R_{pa}	δ_3
a	6	2	7	9	30	10	6	30
b	7	9	3	8	85	–12	9	25
c	3	10	6	8	45	–15	10	80
d	8	5	7	6	25	24	5	45
e	8	5	8	6	75	–50	9	300
f	5	8	8	9	15	–45	10	120
g	6	8	8	9	25	100	4	300
h	20	10	10	10	50	–65	6	20
i	4	5	2	5	80	25	9	80
j	20	10	5	10	33	25	1	0
k	4	6	10	7	88	–80	10	330
l	9	7	10	7	60	–90	5	180
m	9	7	11	8	50	75	10	90
n	9	7	11	6	120	15	15	60