

**FIGURE P5-3**

Data for Problems 5-16 to 5-20

- †5-16 Design a linkage to carry the body in Figure P5-3 through the two positions  $P_1$  and  $P_2$  at the angles shown in the figure. Use analytical synthesis without regard for the fixed pivots shown.
- †5-17 Design a linkage to carry the body in Figure P5-3 through the two positions  $P_2$  and  $P_3$  at the angles shown in the figure. Use analytical synthesis without regard for the fixed pivots shown.
- †5-18 Design a linkage to carry the body in Figure P5-3 through the three positions  $P_1$ ,  $P_2$ , and  $P_3$  at the angles shown in the figure. Use analytical synthesis without regard for the fixed pivots shown.
- \*†5-19 Design a linkage to carry the body in Figure P5-3 through the three positions  $P_1$ ,  $P_2$ , and  $P_3$  at the angles shown in the figure. Use analytical synthesis and design it for the fixed pivots shown.
- †5-20 Write a program to generate and plot the circle-point and center-point circles for Problem 5-19 using an equation solver or any programming language.

\* Answers in Appendix F.

† These problems are suited to solution using *Mathcad*, *Matlab*, or *TKSolver* equation solver programs. In most cases, your solution can be checked with program *FOURBAR*, *SLIDER*, or *SIXBAR*.