



**FIGURE P4-3**

Problems 4-11 to 4-12. Terminology for inversion #3 of the fourbar slider-crank linkage

- \*4-11 The link lengths and the value of  $\theta_2$  and  $\gamma$  for some inverted fourbar slider-crank linkages are defined in Table P4-3. The linkage configuration and terminology are shown in Figure P4-3. For the rows assigned, draw the linkage to scale and graphically find both open and crossed solutions for angles  $\theta_3$  and  $\theta_4$  and vector  $\mathbf{R}_B$ .
- \*†4-12 Repeat Problem 4-11 except solve by the vector loop method.

**TABLE P4-3 Data for Problems 4-11 to 4-12**

| Row | Link 1 | Link 2 | Link 4 | $\gamma$ | $\theta_2$ |
|-----|--------|--------|--------|----------|------------|
| a   | 6      | 2      | 4      | 90       | 30         |
| b   | 7      | 9      | 3      | 75       | 85         |
| c   | 3      | 10     | 6      | 45       | 45         |
| d   | 8      | 5      | 3      | 60       | 25         |
| e   | 8      | 4      | 2      | 30       | 75         |
| f   | 5      | 8      | 8      | 90       | 150        |

\* This figure is provided as an animated Working Model file and as a Matlab file on the CD-ROM. Its filename is the same as the figure number.

\* 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*.