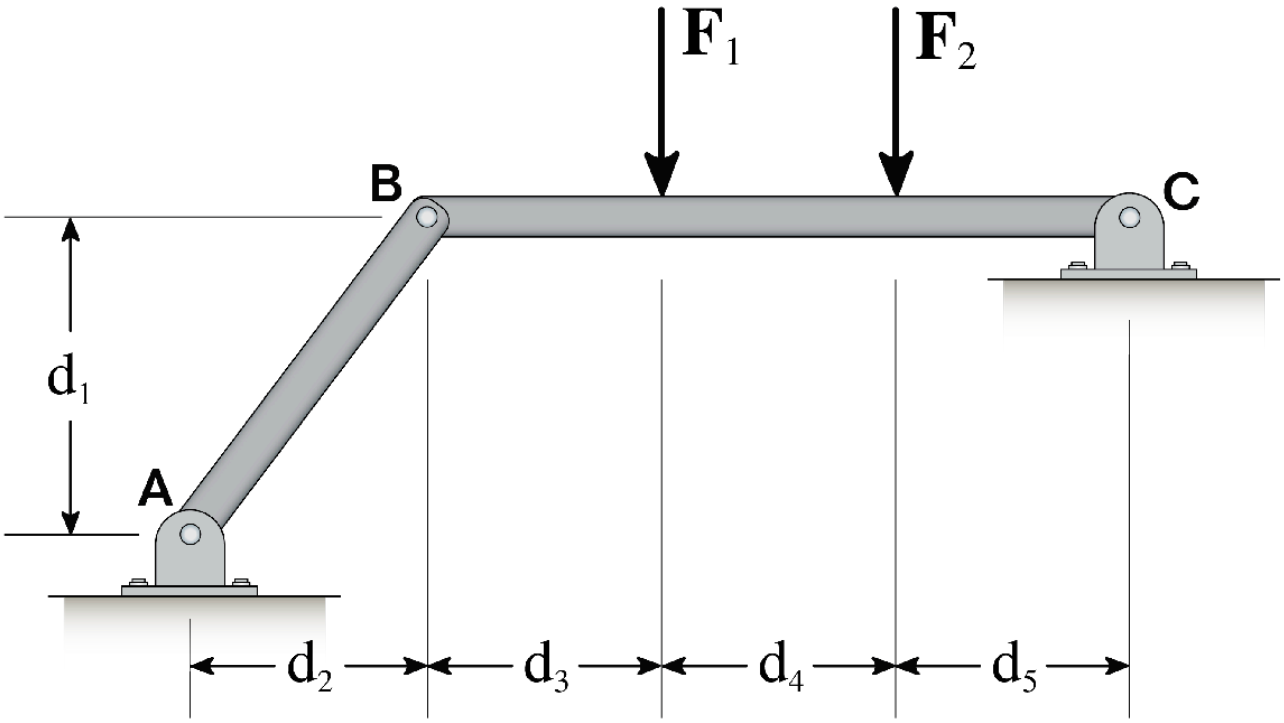

If member AB and BC are pin connected at B, determine the horizontal and vertical reaction components at pin A and pin C. Ignore the mass of the members.

Which of the following members (if any) are two force members?

Since AB experiences no forces besides those at the endpoints, AB is a two force member. (Force exerted by pin A on the AB member acts along the member)

$$F_{AB} = \sqrt{A_x^2 + A_y^2}$$

$$\frac{A_x}{A_y} = \frac{d_2}{d_1}$$

Find the reaction components.

Isolating the BC member:

$$\Sigma M_B = 0 \rightarrow (d_3 + d_4 + d_5) \cdot C_y - d_3 \cdot F_1 - (d_3 + d_4) \cdot F_2 = 0$$

$$\Rightarrow C_y = \frac{d_3 \cdot F_1 + (d_3 + d_4) \cdot F_2}{d_3 + d_4 + d_5}$$

$$+ \uparrow \Sigma F_y = 0 \rightarrow C_y + A_y - F_1 - F_2 = 0$$

$$\Rightarrow A_y = F_1 + F_2 - C_y$$

$$\Rightarrow A_x = \frac{d_2}{d_1} A_y = \frac{d_2}{d_1} (F_1 + F_2 - C_y)$$

$$+ \rightarrow \Sigma F_x = 0 \rightarrow A_x + C_x = 0 \rightarrow C_x = -A_x$$

$$\Rightarrow C_x = \frac{d_2}{d_1} (C_y - F_1 - F_2)$$