**Given:** \( \theta = 80^\circ \), 
\( m_b = 0.30 \)

**Find:** Largest \( P \) for equilibrium

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**AC and BC are two-force members**

**At joint C:**

\[ F_{ac} = P \sin 20^\circ \]  
(1)

\[ F_{bc} = P \cos 20^\circ \]  
(2)

**Assume motion of block A impedes to left.**

\[ \tan \frac{\phi_3}{2} = 0.30 \]

\[ \phi_3 = 16.7^\circ \]

[Diagram showing forces and angles]

\[ F_{ac} = \frac{W}{\sin 16.7^\circ} \]

\[ F_{ac} = 0.419W \]

Substitute into Eq. (1): \( F_{ac} = 0.419W = P \sin 20^\circ \); \( P = 1.225W \)

**Assume motion of block B impedes to right.**

\[ F_{bc} = 1.249W \]

Substitute into Eq. (2): \( F_{bc} = 1.249W = P \cos 20^\circ \); \( P = 1.329W \)

Largest \( P \) for equilibrium: \( P = 1.225W \)