Calculate the net torque about point $O$ for the two forces applied as in the figure. The rod and both forces are in the plane of the page.

**Identify:** \( \tau = Fl \) with \( l = r \sin \phi \). Add the two torques to calculate the net torque.

**Set Up:** Let counterclockwise torques be positive.

**Execute:**

\[
\tau_1 = -F_1l_1 = -(8.00 \text{ N})(5.00 \text{ m}) = -40.0 \text{ N} \cdot \text{m}.
\]

\[
\tau_2 = +F_2l_2 = (12.0 \text{ N})(2.00 \text{ m}) \sin 30.0^\circ = +12.0 \text{ N} \cdot \text{m}.
\]

\[
\sum \tau = \tau_1 + \tau_2 = -28.0 \text{ N} \cdot \text{m}.
\]

The net torque is 28.0 N · m, clockwise.

**Evaluate:** Even though \( F_1 < F_2 \), the magnitude of \( \tau_1 \) is greater than the magnitude of \( \tau_2 \), because \( F_1 \) has a larger moment arm.