

48. The net torque is

$$\begin{aligned}\tau &= \tau_A + \tau_B + \tau_C \\&= F_A r_A \sin \phi_A - F_B r_B \sin \phi_B + F_C r_C \sin \phi_C \\&= (10)(8.0) \sin 135^\circ - (16)(4.0) \sin 90^\circ + (19)(3.0) \sin 160^\circ \\&= 12 \text{ N}\cdot\text{m} .\end{aligned}$$