

1. From $\vec{\tau} = \vec{r} \times \vec{F}$, we note that persons 1 through 4 exert torques pointing out of the page (relative to the fulcrum), and persons 5 through 8 exert torques pointing into the page.
 - (a) Among persons 1 through 4, the largest magnitude of torque is $(330 \text{ N})(3 \text{ m}) = 990 \text{ N}\cdot\text{m}$, due to the weight of person 2.
 - (b) Among persons 5 through 8, the largest magnitude of torque is $(330 \text{ N})(3 \text{ m}) = 990 \text{ N}\cdot\text{m}$, due to the weight of person 7.