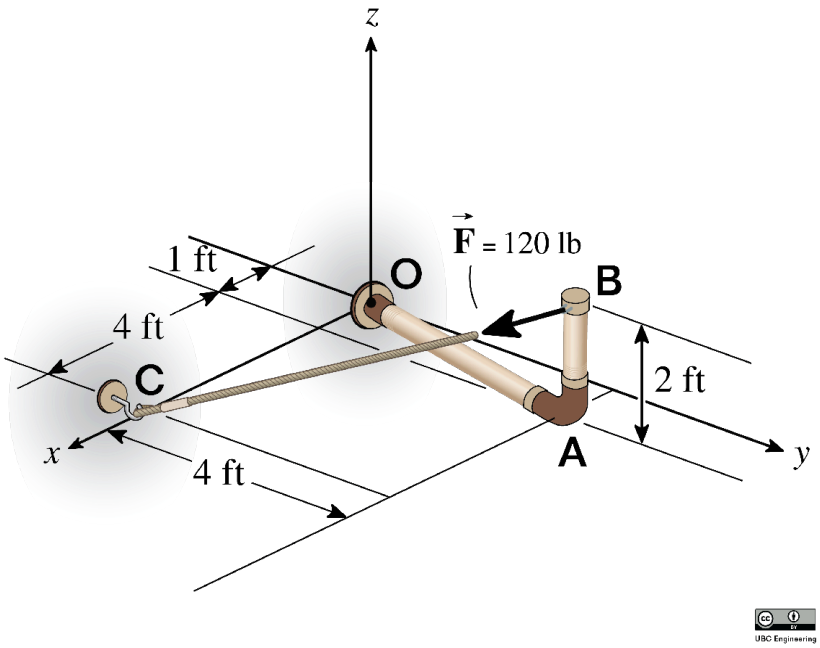
21-S-2.7-RP-01



A rope is attached to a pipe as shown above. Find the position vector from point B to point C.

$P_C = (5, 0, 0)$

$P_B = (1, 4, 2)$

$\overrightarrow{r_{BC}} = P_C - P_B = \ < 4, -4, -2 > \text{ft}$

Calculate the magnitude of $\overrightarrow{r_{BC}}$.

$||\overrightarrow{r_{BC}}|| = \sqrt{4^2 + 4^2 + 2^2} = 6$