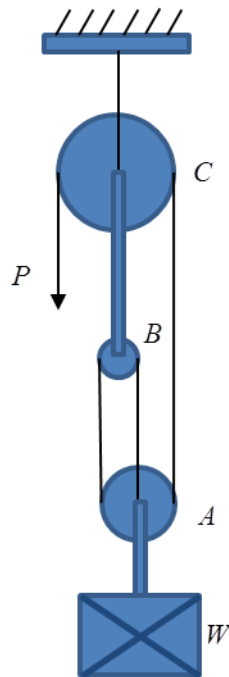


20. A frictionless pulley system which supports a box is shown in the figure. The weight of the box follows a normal distribution $W \sim N(1800, 80^2)$ N. Determine the distribution of the tension in the cables and also the distribution of the force P .



Solution: The distribution of the force P is $P \sim N(600, 26.67^2)$ N. The distribution of the force T for pulley B is $T \sim N(1200, 53.3^2)$ N. The distribution of the force R for pulley C is $R \sim N(2400, 75.4^2)$ N.