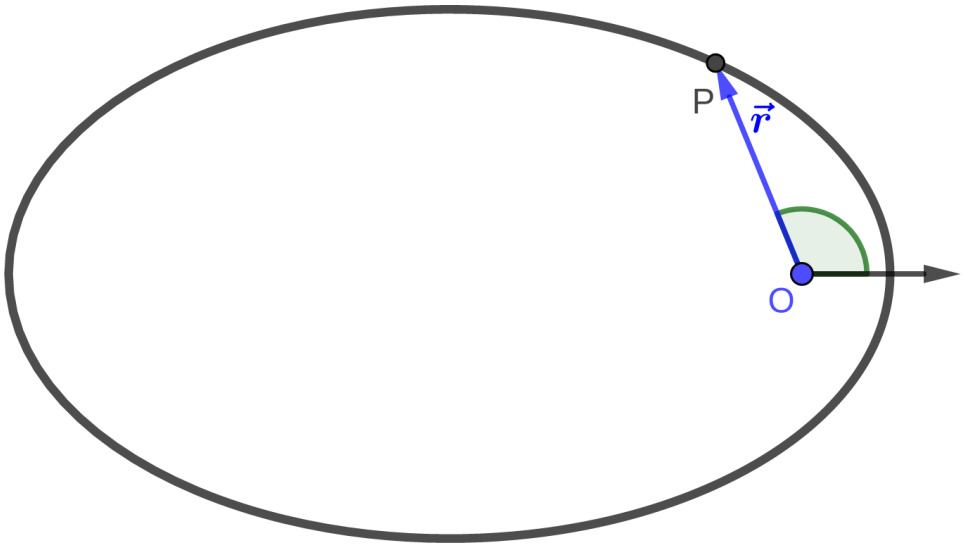
1. On the figure below, draw $\hat{s}$ and $\hat{\phi}$ at P.



2. Find $\frac{d}{dt}\hat{s}$ and $\frac{d}{dt}\hat{\phi}$ in terms of $\hat{s}$ and $\hat{\phi}$.

3. Find $\vec{v}$ in terms of $\hat{s}$ and $\hat{\phi}$.