



The diagram illustrates the displacement and acceleration of a point on a rotating body. A horizontal blue line with arrows at both ends represents the displacement $\omega r \delta t$. A blue square is positioned at the right end of this line. A curved grey line represents the arc of rotation. A blue square is also positioned on this arc. A dashed blue line extends from the center of rotation to the blue square on the arc. A red arrow points from the center towards the blue square on the arc, representing the centripetal acceleration. A red curved arrow indicates the angular displacement, labeled with the equation $0.5 \omega^2 r \delta t^2$.

$$\omega r \delta t$$

$$0.5 \omega^2 r \delta t^2$$