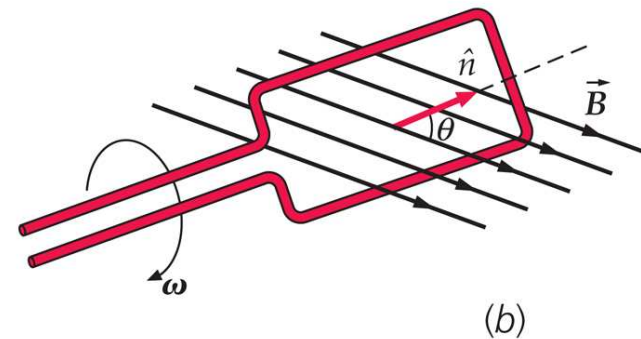
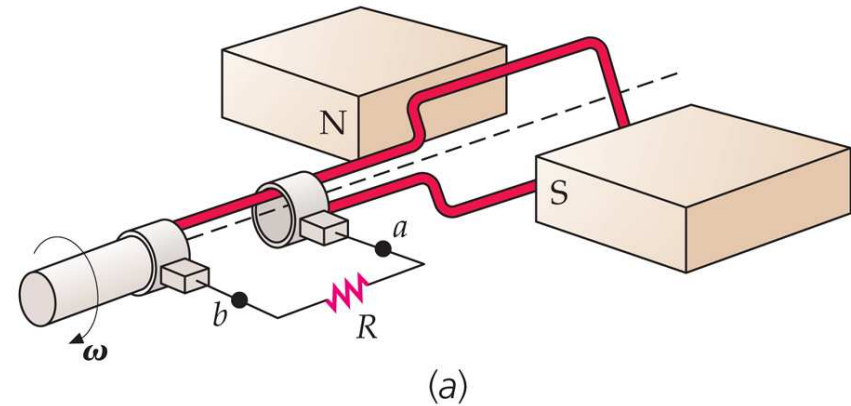


AC Generator



- Area of conducting loop: A
- Number of loops: N
- Area vector: $\vec{A} = A\hat{n}$
- Magnetic field: \vec{B}
- Angle between vectors \vec{A} and \vec{B} : $\theta = \omega t$
- Magnetic flux: $\Phi_B = N\vec{A} \cdot \vec{B} = NAB \cos(\omega t)$
- Induced EMF: $\mathcal{E} = -\frac{d\Phi_B}{dt} = \underbrace{NAB\omega}_{\mathcal{E}_{max}} \sin(\omega t)$