Centripetal Force (SwiftStudy Printable)

Key Formulas

$$F_c = \frac{mv^2}{r}$$

F_c	centripetal force	N
m	mass	kg
v	tangential velocity	m/s
r	radius	m

$$F_c = m\omega^2 r$$

F_c	centripetal force	N
m	mass	kg
ω	angular velocity	rad/s
r	radius	m

Tips to Remember

- Confused about whether you have tangential or angular velocity? The biggest tipoff is the unit. Tangential velocities (v) use traditional length divided by time units (m/s, km/hr, mph, etc.). An angular velocity's units involve angles or revolutions, such as 10 rad/s, or 20 rpm (revolutions per minute).
- If you need to convert revolutions to radians in your angular velocity, use the fact that there are 2π radians in 1 revolution.