

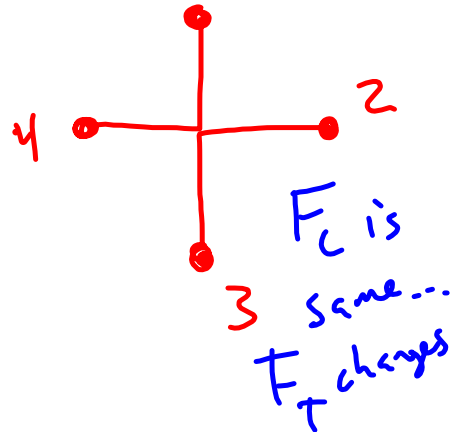
## Vertical Rotation of a Tennis Ball

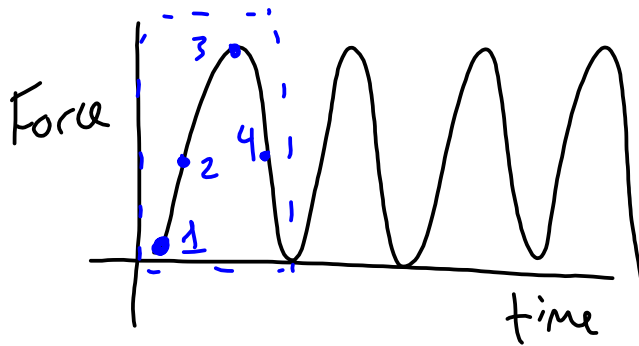
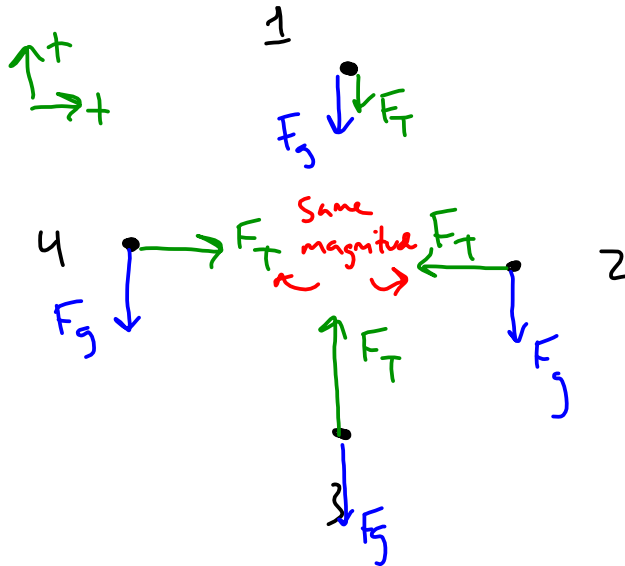
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- Swing ball in vertical circle
  - Calculate  $F_T$
  - Measure  $F_T$

compare! 1

- Whiteboard
  - Calculation
  - Measurements
  - Discussion of comparison





①  $\Sigma F = ma_c$   
 $-F_T - F_g = m \frac{v^2}{r} = m\omega^2 r$   
 $F_T = \frac{-mv^2}{r} - F_g$

③  $\Sigma F = ma_c$   
 $F_T - F_g = \frac{mv^2}{r}$   
 $F_T = F_g + \frac{mv^2}{r}$