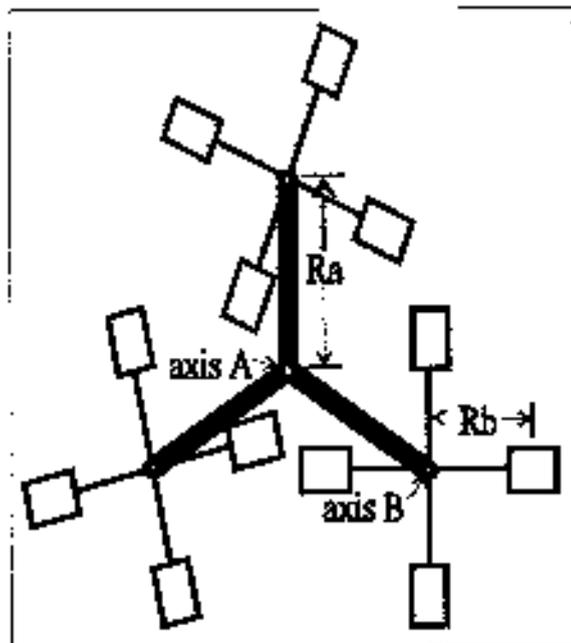


HOMETOWN FUN MACHINE



Qualitative Observations

As viewed from a stationary position above the Home Town Fun Machine sketch your path during one full revolution.

1. Where along the path is your speed relative to the ground is at maximum? At minimum?
2. What is the direction of your velocity when your speed is at maximum? At minimum?
3. Where along the path is your acceleration is at maximum? At minimum?
4. What is your position along the path when you feel the greatest force? The least? What are their directions? What is the apparent force called?
5. If someone were watching from a stationary position above the Home Town Fun Machine, they would describe a different force acting on you. What would the direction of this force be? What is this force called?

Quantitative Measurements

Measure the time 't' it takes you to make one full rotation about axis B.

t = _____

Measure the time 'T' it takes axis B to make one full rotation about axis A.

T = _____

HOMETOWN FUN MACHINE

Measure or estimate the distance 'r'.

$$r = \underline{\hspace{2cm}}$$

Measure or estimate the distance 'R'.

$$R = \underline{\hspace{2cm}}$$

6. Using your measurements of t , T , r and R , make a drawing to scale of your path during one full revolution of the Home Town Fun Machine about axis A .

7. Calculate your maximum and minimum speed.

$$v_{\max} = \underline{\hspace{2cm}} \quad v_{\min} = \underline{\hspace{2cm}}$$

8. Calculate the magnitude of your maximum and minimum acceleration.

$$a_{\max} = \underline{\hspace{2cm}} \quad a_{\min} = \underline{\hspace{2cm}}$$

9. Knowing your mass and maximum and minimum accelerations, calculate the maximum and minimum centripetal force acting you during one revolution.

$$F_{\max} = \underline{\hspace{2cm}} \quad F_{\min} = \underline{\hspace{2cm}}$$