

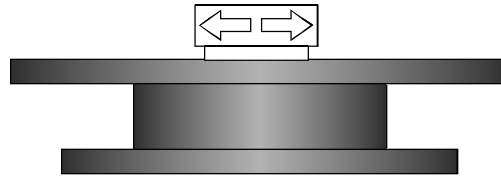
W I L L W I T G O R O U N D I N C I R C L E S ? THE DIRECTION OF ACCELERATION IN CIRCULAR MOTION

Name: _____ Per: _____ Date: _____

THE SETUP

A Visual Accelerometer is set tangentially near the edge of a rotating platform.

(Set to Manual range: 5 m/s^2 .)



PREDICTIONS, OBSERVATIONS, AND ANALYSIS

1. a. What will happen when the platform is rotated clockwise and the Visual Accelerometer goes into circular motion?

the green (rightward) LEDs will light

the red (leftward) LEDs will light

all LEDs will light

no LEDs will light

b. What *actually* happens and what does this mean?

2. The Visual Accelerometer is next set radially at the midpoint of a radius. The platform is again rotated clockwise. What are the results and what do they mean? Include a diagram.

3. The motion is stopped and the Visual Accelerometer is moved to the opposite side of the platform.

a. What will happen when the platform is rotated clockwise and the Visual Accelerometer goes into circular motion?

b. What happens and what does it mean?

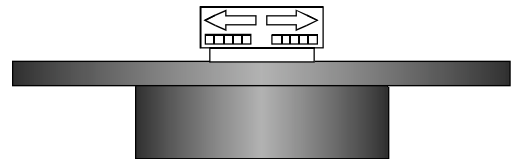
3. The motion is stopped.
a. What will happen if the platform is rotated *counter-clockwise*?

b. What happens and what does it mean?

4. The motion is stopped and the Visual Accelerometer is placed in the center of the platform.

a. What will happen when the platform is rotated?

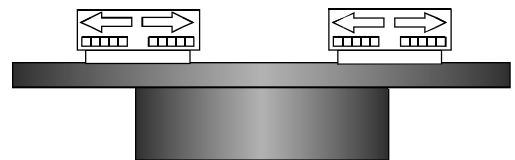
b. What happens and what does it mean?



5. Two Visual Accelerometers are set radially on the platform, one on each side of the center, about halfway out along each radius.

a. What will happen when the platform is rotated?

b. What happens and what does it mean?



6. What conclusion can you draw from these demonstrations? Answer using words and diagrams. Include the terms “radial” and “tangential.” Is there centripetal acceleration? Centrifugal acceleration?