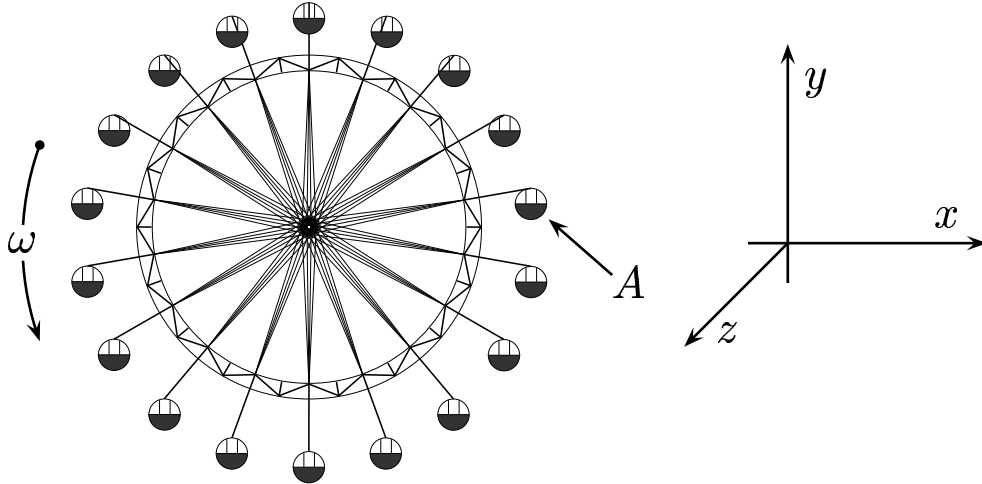
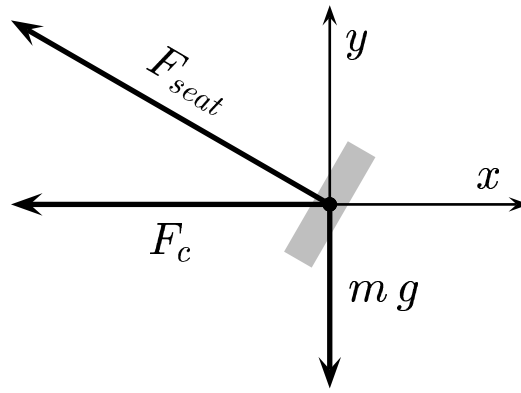


Consider the setup of a Ferris wheel in an amusement park. The wheel is turning in a counter-clockwise manner. Contrary to the illustration, not all seats are aligned horizontally; *i.e.*, parallel to the x -axis.



The orientation (normal, \perp) of the seat's surface as it passes A is

- A) parallel to the x -axis.
- B) in the first and third quadrants.
- C) parallel to the y -axis.
- D) in the second and fourth quadrants.



Explanation: As the chair rises passing by A , apply the $F = m a$ formula to the rider.

The situation is shown in the sketch, where $F_{seat} + m g = m a_{cp}$.

Notice that the orientation of the seat is perpendicular to F_{seat} .

So it should be in the first and third quadrants.

Answer **B**.

Note: This Ferris Wheel is spinning too fast for safety.

06.01-05 Ferris Wheel 2004-3-24