

## Question #311

I sit on a rotating chair, resting on a high quality bearing with very little friction so that the bearing creates negligible frictional force and will not affect the experiment. My arms are extended in opposite directions and I am holding small barbells, as seen in the photograph below. While I am in this position, the chair is started into rotation, as seen in an mpeg video by clicking your mouse on the photograph.



While rotating I will attempt to bring my arms inward until the barbells are against my chest.

Which of the following describes the situation after I attempt to pull my arms inward?

- (a) I can't do that because of the large centrifugal reaction pulling outward on the weights.
- (b) The chair will immediately stop.
- (c) The chair will rotate more slowly.
- (d) The chair will rotate more rapidly.
- (e) The weights will move upward due to the gyroscopic force.

Click here for [Answer #311](#) after March 31, 2008.

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For questions and comments regarding the *Question of the Week* contact [Dr. Richard E. Berg](#) by e-mail or using phone number or regular mail address given on the [Lecture-Demonstration Home Page](#).