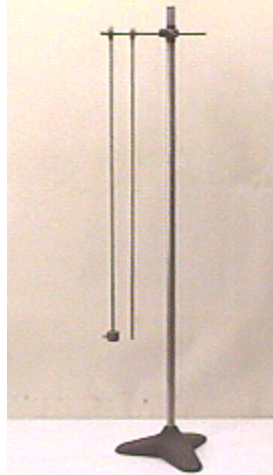# Answer #38

The answer is (a): the straight rod will reach the bottom first, as can be seen in an mpeg video by clicking on the photograph below.

The angular speed with which either of the pendula rotates when released is a function of the mass distribution along the pendulum. The quantity that summarizes the effect of the mass distribution is the radius of gyration, or the radius at which the mass would be positioned for an equivalent simple pendulum. When a large mass is positioned at the *end* of the original physical pendulum, it increases the radius of gyration and therefore slows the rotational acceleration when the pendulum is released. This brings us to the next Question of the week: Question #39.

Archive 2

Question of the Week

Outreach Index Page

Lecture-Demonstration Home Page

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.