WebAssign
Lab #6: Gravitational Orbits (Homework)

Yinglai Wang
PHYS 172-SPRING 2012, Spring 2012
Instructor: Virendra Saxena

Current Score : 2 / 2 **Due :** Tuesday, February 21 2012 11:59 PM EST

1. 1/1 points | Previous Answers MI2 04.X.19.02

Based on your observations of the behavior of your computer model of a planet orbiting a star, and on your reading in the textbook, which of the following statements about a *circular* orbit are true?

- [x] The gravitational force on the planet due to the star always acts at a right angle to the planet's momentum.
- [x] The magnitude of the planet's momentum is constant.
- [x] At any instant the momentum of the planet is tangent to the planet's trajectory.
- [x] At every instant, $d\vec{p}/dt$ points from the planet to the star.
- [x] The direction of the planet's momentum is changing at every instant.

2. 1/1 points | Previous Answers MI2 04.X.19.01

Based on your observations of the behavior of your computer model of a planet orbiting a star, and on your reading in the textbook, which of the following statements about an *elliptical* orbit are true?

- [ ] The magnitude of the planet's momentum is constant.
- [ ] The gravitational force on the planet due to the star always acts at a right angle to the planet's momentum.
- [x] The direction of the planet's momentum is changing at every instant.
- [x] At every instant, $d\vec{p}/dt$ points from the planet to the star.
- [x] At any instant the momentum of the planet is tangent to the planet's trajectory.