

**The Mechanical Universe**  
**KEPLER'S LAWS**  
**16min**



Read the following questions before the video begins. Answer them while the video is in progress. Make note of when you are asked to pass this paper forward for collection. This is an *individual* effort. That means you **DON'T ASK OTHERS FOR ANSWERS** it may count as 10 lab points.

**LISTEN! CONCENTRATE ON THE WORDS! DO NOT BE DISTRACTED BY THE IMAGES! IF YOU ARE EASILY DISTRACTED BY VISUALS, CLOSE YOUR EYES AND JUST LISTEN!**

- Kepler became known as the " \_\_\_\_\_ mathematician."
- In 1618, Johannes Kepler published a book called
  - The Starry Messenger*
  - Harmony of the Worlds*
  - Dialogues Concerning the Two Chief World Systems*
  - The Revolution of Heavenly Orbs*
  - The Mathematical Principles of Natural Philosophy*
- On January 1, 1600, Johannes Kepler set out to find
  - Brahe
  - Galileo
  - Descartes
  - Jearl Walker
- How long did Kepler work with Tycho before Tycho's death?
  - 1 month
  - 2 months
  - 1 year
  - 2 years
  - 10 years
  - 20 years
- When Kepler finally got Tycho's planetary data, he was ready to, in his words, " \_\_\_\_\_ "
- In the Tyconic System,
  - All bodies orbited the sun
  - All bodies orbited the earth
  - The sun orbited the earth, the planets orbited the sun
  - The earth orbited the sun, the planets orbited the earth
- How many pages of calculations did Kepler complete in his analysis of Brahe's data?
- What curve fit the precise plot of Mars' orbit?
  - Circle
  - Oval
  - Ellipse
  - Cycloid
- When does a planet "sweep out more area?"
  - When it is near the sun, moving quickly
  - Far from the sun, moving slowly
  - same for both
- In all, Kepler is attributed with \_\_\_\_\_ laws.