

## Concept Quiz #2

1. Which of the following would create a deeper transit dip?*(multiple answers possible)*
  - a. Smaller planet
  - b. Larger planet
  - c. Smaller star
  - d. Larger star
2. If we (on Earth) see a planet that is in an inferior conjunction with the Sun, what phase would that planet be showing to us?
  - a. New
  - b. Crescent
  - c. Quarter
  - d. Gibbous
  - e. Full
3. Why do we think that the majority of planets spin in the same direction/sense as they orbit?
  - a. Because they were hit by large impactors which gave them their present spin.
  - b. Because they formed from a disk of gas and dust that was rotating in that direction/sense.
  - c. Because the Sun's gravity pulls their spins into alignment.
  - d. Because Uranus is tilted on its side.
4. What best describes the reason why Jupiter's moon Io has so much internal heat?
  - a. Io is a large moon and so can retain its internal heat for a long time.
  - b. Io is very close to Jupiter which radiates enough energy to keep Io heated.
  - c. Io has volcanoes which generate enough heat to keep the moon heated.
  - d. Jupiter's strong tidal force deforms Io throughout its orbit generating friction and heat.
5. The fact that a planet and its star orbit their common center of mass is fundamental to which of the following planetary detection methods?*(multiple answers possible)*
  - a. Astrometry method
  - b. Radial Velocity method
  - c. Transit method
  - d. Direct Imaging method

6. Which planetary detection method would be *best* suited to detect a planet whose orbit is oriented like the extra-solar planet diagram?
- Astrometry method
  - Radial Velocity method
  - Transit method
7. Please put the following phases of planet formation into the correct order:
- Gravitational force dominated growth
  - Bombardment/Random impacts
  - Electro-static force dominated growth
  - Gas accretion (like on the gas giants)
  - Disk gap formation and migration
- 3, 2, 4, 1, 5
  - 1, 2, 3, 4, 5
  - 3, 1, 5, 2, 4
  - 2, 1, 3, 5, 4
  - 3, 1, 4, 2, 5
8. When was Pluto's mass able to be calculated?
- When it was discovered by Clyde Tombaugh in 1930.
  - When its size was estimated by the amount of light it reflected.
  - When it was detected by the gravitational disturbance of Neptune and Uranus' orbits.
  - When its moon was discovered.
9. Which planet's spin axis is pointed nearest to the ecliptic plane?
- Mercury
  - Earth
  - Jupiter
  - Uranus
  - Neptune
10. Which statement best describes the formation of typical moons and satellites?
- Formed in a scaled down version of the solar nebula around a planet.
  - Formed from a disrupted planet.
  - Formed as a miniature planet and was captured into orbit.
  - Formed through electro-static forces only.

Please mark your exam with your quiz form letter and hand in both this quiz sheet and your answer form.

*Quiz Form: B*