

Concept Quiz #2

1. 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

2. 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.

3. Which planet's spin axis is pointed nearest to the ecliptic plane?
 - a. Mercury
 - b. Earth
 - c. Jupiter
 - d. Uranus
 - e. Neptune

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. When was Pluto's mass able to be calculated?
 - a. When it was discovered by Clyde Tombaugh in 1930.
 - b. When its size was estimated by the amount of light it reflected.
 - c. When its gravitational effect on Neptune and Uranus' orbits was discovered.
 - d. When its moon was discovered.

6. 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)
- Astrometry method
 - Radial Velocity method
 - Transit method
 - Direct Imaging method
7. 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
8. Which of the following would create a deeper transit dip?
(multiple answers possible)
- Smaller planet
 - Larger planet
 - Smaller star
 - Larger star
9. 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
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: A