# Review Quizzes: Moons of Giant Planets

| Question | Answer |
|---|---|
| **Question 1:** Which of the following answers describe both a peculiar feature of Neptunes' moon Triton and a possible explanation? | Can't fool me--all of these answers are correct. |
| **Question 2:** Select all that apply. Which of the following are not theories of why Miranda, a small moon of Uranus, has such unusual features? | Miranda is the result of between 4 and 6 of Uranus's smaller moons gravitationally coming together and coagulating. |
| **Question 3:** Select all that apply. Scientists are interested in Saturn's moon Titan (and have thus sent a probe to land on it in 2004) because | Titan is the only moon known to have an appreciable atmosphere.<br>Titan's surface is believed to have a combination of continents and seas.<br>Titan is thought to mimic early conditions on Earth (only much colder). |
| **Question 4:** Thought to have a liquid or slushy ocean beneath its surface; mineral laden water seen perculating from below; experiences tidal heating. | Europa |
| **Question 5:** Surface shows ample evidence for disruption: ridges, grooves, craters, faulting. May have an iron core, but made mostly of water ice. | Ganymede |
| **Question 6:** Continuously resurfaces itself on short, geologically speaking, time scales. Colorful due to sulfur contamination of the silicate rocks. | Io |
| **Question 7:** Surface is perhaps one of the oldest in the solar system, given its crater density on its icy surface. May have a salty ocean; has its own magnetic field. | Callisto |
| **Question 8:** Each of the following answers is a criterion for tidal heating. Which answer should NOT be included? | Moon undergoing tidal heating is composed mostly of ice or icy slush. |
| **Question 9:** Now that you know the three requirements for tidal heating, explain how tidal heating works. | See on-line lecture notes. |
| **Question 10:** Which one of the following answers is a theory as to why some of the moons of Saturn show relative recent evidence of heating leading to resurfacing? | Part of the interior is or was liquid, perhaps due to a tidal heating mechanism similar to Jupiter's moon Europa. |