

HOMEWORK SET 7

Due October 12, Monday

1. Tell which planets are called the terrestrial planets, and explain how they came to have that name. Do the same for the planets that are labeled Jovian. Is Pluto a Jovian or a terrestrial planet? Why?
2. Neptune's distance to the Sun is about 30 AU. A year on Neptune is as long as how many Earth year? Do the same for the Mercury whose distance to the Sun is about 0.4 AU.
3. Discuss two mechanisms that operate to keep a planet's atmosphere in place. What would happen to the atmosphere if a planet's surface temperature increased or if its mass decreased?
4. Assume that a planet will lose its atmosphere if the molecular velocity exceeds one-sixth the escape velocity. What would Jupiter's temperature have to be for its hydrogen to escape?