

29:52 Exploration of the Solar System
Homework Assignment # 7
Assigned: March 31, 2008
Homework Quiz Due: April 7, 2008, 8 AM

1. Use *Starry Night* to find the distance from Earth to Mars this week. Express your result in astronomical units.
2. Use the result from #1 to answer the following question. How much further away is Mars this week than the Moon. You can use the average distance to the Moon in answering this question.
3. As discussed in class, the distance from the Earth to Mars at opposition varies dramatically. What characteristic of Mars' orbit is responsible for this?
4. How high in the atmosphere of Earth would have to go to find a pressure equal to that at the surface of Mars? What (approximately) is the temperature at that point in the Earth's atmosphere? How does the temperature compare with that at the surface of Mars? **Hint:** Forage around in the textbook. Don't just pull numbers off the web. This is a graph-based question.
5. Gusev crater, the landing spot of the spacecraft *Spirit* has the following Martian coordinates. Latitude, 14.6 degrees south, longitude 175 degrees east. On what type of Martian terrain is Gusev crater? In other words, is it on the high, old, heavily cratered region, on the low, flat smooth area, in the large volcanos, near "The Face", etc?