

**29:52 Exploration of the Solar System**  
**Homework Assignment # 1**  
**January 27, 2010 (closest approach of Mars to Earth)**

1. What is the azimuth angle of the Sun when it sets these days?
  - (a) 40 - 70 degrees
  - (b) 100-130 degrees
  - (c) 150 - 180 degrees
  - (d) 230 - 250 degrees
  - (e) 280 - 310 degrees
2. If a star is at the *zenith*, what is its altitude angle?
  - (a) 0 degrees
  - (b) 15 degrees
  - (c) 35 degrees
  - (d) 90 degrees
  - (e) 117 degrees
3. Which planet is visible low in the southwest, right after sunset? Give the answer in one word.
4. Which planet is right now the closest that it will be to the planet Earth for at least 2 years? Give the answer in one word.
5. The distance to the Moon is approximately how many Earth radii?
  - (a) 2
  - (b) 7
  - (c) 60
  - (d) 589
  - (e)  $5.2 \times 10^9$
6. What is the unit of distance which is customarily used to express distances in the solar system?
  - (a) astronomical unit
  - (b) planetary distance unit
  - (c) parsec
  - (d) light year
  - (e) classical electron radius
7. Using methods described in the book and class, measure the angular width of Slater dorm as seen from the west steps of Old Capitol. Remember the answer for the online questions.

8. What kind of astronomical object is Vesta?
- (a) major planet
  - (b) moon of a major planet
  - (c) asteroid
  - (d) star
  - (e) comet