

NAME: \_\_\_\_\_ DATE: \_\_\_\_\_

**Homework #1**

1. What is 2 arc minutes equal to in arc seconds? The average distance from the Earth to the Sun is equal to 150,000,000 km, write this number in scientific notation.
2. Assuming the sun makes an angle of  $0.5^\circ$  in our sky and is at a distance of  $1.496 \cdot 10^{11}$ m, what is the Sun's diameter in meters? Divide this number by 2 to find the Sun's radius, and convert this number to find the Sun's radius in miles.
3. What is the phase of the Moon if it
  - (a) rises at 3AM? \_\_\_\_\_
  - (b) sets at 9PM? \_\_\_\_\_
4. At what time of day does the Full Moon set? \_\_\_\_\_. Draw a picture of the Sun-Earth-Moon system to illustrate your answer.
5. Why is it warmer in the summer than in the winter?
6. Are there any stars in the sky that are not members of a constellation? How many constellations are there?

