

Name: \_\_\_\_\_

## Chapter 25 Review Sheet

### Section 1

1. What is the geocentric model?
2. What is the heliocentric model?
3. The apparent motions of the sun, moon, and stars result from Earth's daily \_\_\_\_\_
4. \_\_\_\_\_ and \_\_\_\_\_ keeps the planets in orbit around the sun.
5. True or False: The orbit around the sun is a circle.
6. The plane of Earth's orbit is called the \_\_\_\_\_.
7. What bodies make up the solar system?
8. A \_\_\_\_\_ is a relatively small natural body in space that revolves around a planet.
9. \_\_\_\_\_ and \_\_\_\_\_ are the only two planets without moons.
10. What do astronomers use to describe distances within the solar system? Define this term.
11. List three modern technologies that are being used to explore the solar system.
12. A \_\_\_\_\_ is an unpiloted vehicle that carries scientific instruments into space and transmits information back to Earth.
13. The \_\_\_\_\_ is a permanent laboratory designed for research in space for various astronauts from different countries.

### Section 2

14. True or False: The moon has a thick atmosphere.
15. True or False: The moon's surface temperature varies tremendously.
16. The moon has three major surface features.
  - a. \_\_\_\_\_ are low, flat plains formed by ancient lunar lava flows.
  - b. \_\_\_\_\_ are rough, mountainous region surrounding maria.
  - c. \_\_\_\_\_ are round depressions in the surface caused by the impact of high-speed meteoroids.
17. Why do most old craters still exist on the moon?
18. Scientists hypothesized that the moon formed after an enormous \_\_\_\_\_ early in Earth's history.

19. The moon's phases are caused by changes in the relative \_\_\_\_\_ of the moon, sun, and Earth.
20. The moon cannot produce its own light, so where does the light come from?
21. \_\_\_\_\_ are the different shapes of the moon visible from Earth.
- \_\_\_\_\_ moon – occurs when the moon is between the sun and Earth
  - \_\_\_\_\_ moon – occurs when Earth is between the sun and moon.
  - The shape of the moon is described as a \_\_\_\_\_ if less than half of the moon is lit.
  - The shape of the moon is described as \_\_\_\_\_ is more than half of the moon is lit.
  - The term \_\_\_\_\_ means growing; while the term \_\_\_\_\_ means shrinking.
22. A \_\_\_\_\_ occurs when the shadow of one body in space, such as a planet or moon, falls on another.
23. True or False: Eclipses occur EVERY month during the new or full moon.
24. A \_\_\_\_\_ eclipse occurs when the moon casts a shadow on the portion of Earth's surface and occurs during the \_\_\_\_\_ moon.
25. A \_\_\_\_\_ eclipse occurs when Earth casts a shadow on the moon during the \_\_\_\_\_ moon.
26. \_\_\_\_\_ are the regular rise and fall of ocean water.
27. What is the main cause of the tides?
28. A spring tide is where the change between daily high and low tides is the \_\_\_\_\_.
- Occurs during a \_\_\_\_\_ or \_\_\_\_\_ moon.
  - The moon, sun, and Earth are in a \_\_\_\_\_.
29. A neap tide is where the change between daily high and low tides is the \_\_\_\_\_.
- Occurs during the \_\_\_\_\_ or \_\_\_\_\_ moon.
  - The moon, sun, and Earth form a \_\_\_\_\_.

### **Section 3**

30. List the four inner solar system planets.
31. Inner solar system planets are called \_\_\_\_\_ planets because they are similar in structure to Earth.
32. What characteristics do the inner solar system planets share?
33. Answer the following about Mercury:
- True or False: Mercury is the smallest of the terrestrial planets.
  - True or False: There is no mantle convection and little erosion on Mercury.
  - True or False: Mercury's surface temperature results in being extremely hot.
  - True or False: Mercury has a thick atmosphere.
34. Answer the following about Venus:

- a. True or False: Venus has a thick atmosphere.
  - b. True or False: Venus's atmosphere is composed of nitrogen which traps heat.
  - c. True or False: Volcanos are found on Venus's surface.
  - d. True or False: Venus rotates in the direction opposite to which it revolves.
35. Answer the following about Earth:
- a. True or False: Earth's surface has a suitable atmosphere and temperature range for water to exist as a liquid
  - b. True or False: Earth has a thin atmosphere composed of carbon dioxide gas.
  - c. True or False: Earth has tectonic plates and erosion that continually changes its surface.
36. Answer the following about Mars:
- a. True or False: Mercury rich rocks gives Mars a reddish color.
  - b. True or False: Mars has a thin atmosphere composed of carbon dioxide.
  - c. True or False: The surface temperature on Mars is relatively cold compared to other terrestrial planets.
  - d. True or False: It is believed that Mars once had liquid water on its surface.
37. \_\_\_\_\_ are small, rocky bodies that are found orbiting the sun in the asteroid belt located between \_\_\_\_\_ and \_\_\_\_\_.
38. True or False: Asteroids are only found in the asteroid belt.
39. Asteroids are remnants of what?

#### **Section 4**

40. List the four outer solar system planets.
41. What characteristics do the outer solar system planets/gas giants share?
42. What two main gases make up gas giants?
43. A \_\_\_\_\_ is a disk made of many small particles of rock and ice in orbit around a planet.
44. Answer the following about Jupiter:
- a. True or False: Jupiter is the largest and most massive planet.
  - b. True or False: The Great Dark Spot is a huge storm that can be found on Jupiter.
  - c. True or False: Jupiter's moon Io is covered in ice.
  - d. True or False: Jupiter's moon Europa contains liquid water beneath the ice that can be a likely place to support life.
45. Answer the following about Saturn:
- a. True or False: Saturn has the biggest and most visible rings.
  - b. True or False: Saturn contains a small atmosphere composed of methane.
  - c. True or False: Saturn's most famous moon is Callisto.
46. What is the most unusual characteristic of Uranus?

47. The gas \_\_\_\_\_, gives both Uranus and Neptune its blue/green coloring.
48. Neptune's most famous moon is known as \_\_\_\_\_ which has an icy surface.
49. How is a dwarf planet similar to a planet? How is it different?
50. \_\_\_\_\_, which used to be the 9<sup>th</sup> planet, was later reclassified as a dwarf planet.
51. True or False: Charon, Nix, and Hydra are all moons of Pluto.
52. \_\_\_\_\_ are dust pieces of ice and rock that partially vaporize when they pass near the sun.
53. \_\_\_\_\_ are the oldest remnants of the early solar system.
54. Radioactive dating on meteoroids estimated that the solar system is about \_\_\_\_\_ years old.
55. The \_\_\_\_\_ is a doughnut shaped region located past Neptune about 100 AU and contains Pluto.
56. The \_\_\_\_\_ is a very sparse sphere of comets that encircle to solar system about 50,000 AU.

### **Section 5**

57. What is the nebular theory?
58. A \_\_\_\_\_ is a large, thin cloud of dust and gas that eventually formed out solar system.
59. True or False: The solar nebula formed from the material expelled by previous stars.
60. Put the following events in the correct order:
- \_\_\_\_\_ a) Solar nebula spins faster
  - \_\_\_\_\_ b) Solar nebula flattens out and form protoplanetary disk
  - \_\_\_\_\_ c) Density and temperature in protoplanetary disk increases
  - \_\_\_1\_\_\_ d) Shock wave from explosion of nearby star causes solar nebula to collapse.
  - \_\_\_\_\_ e) Temperature increases enough for nuclear reactions to begin and sun is born
  - \_\_\_\_\_ f) Solar nebular spins fast enough for gravitational attraction to pull enough particles towards it
61. True or False: Nearly all of the mass of the solar nebula becomes concentrated near the center.
62. The center of a solar nebula eventually becomes the \_\_\_\_\_.
63. \_\_\_\_\_ were asteroid like bodies that eventually combine to form \_\_\_\_\_, which form the current planets.
64. \_\_\_\_\_ is a process of adding mass to growing planetesimals.
65. Terrestrial planets are relatively small and rocky because the inner solar system was too (hot/cold) so ice forming compounds (could/could not) condense while rocky materials (could/could not) condense.
66. Gas giants are large with low densities because outer solar system was too (hot/cold) so ice forming compounds (could/could not) condense.