Astronomy (Unit II): Review Sheet

Rotation

1. Earth spins _____.
2. Earth spins on a tilted axis of _____.
3. North Pole is always pointed toward _____.
4. Earth rotates in ____ hrs ____ min ____ sec
5. Rate of Rotation = ____ degrees per _____
6. The four pieces evidence for rotation include:
7. What direction do the prevailing winds and ocean currents move in the northern and southern hemispheres?

Revolution

8. Earth orbits _____.
9. As Earth orbits the Sun, what happens to the tilt of the Earth from position to position?
10. Earth revolves in _____._____ days
11. Rate of Revolution = ____ degrees per _____
12. The three pieces evidence for rotation include:
13. Aphelion falls on _____, Perihelion falls on _____

Orbits and Gravity

14. Kepler has ____ laws of planetary motion.
15. Eccentricity =
16. All planets travel in _____ orbits with the _____ at one _____ point.
17. As the distance between the foci decreases, eccentricity _____
18. As the distance between the foci increases, eccentricity _____
19. A planet travels faster when it is (closer -or- farther) from the Sun.
20. A planet travels slower when it is (closer -or- farther) from the Sun.
21. As distance increases from the Sun, the period of revolution _____
22. Gravity (increases -or- decreases) when two celestial objects have more mass.
23. Gravity (increases -or- decreases) when two celestial objects are close to each other.
24. How do the planets travel in stable orbits?

Stars

25. This process combines lighter elements into heavier elements = _____
26. Know how to utilize pg. 15 of the ESRT between all the variables (color, temperature, luminosity, size, and age)
27. What happens to the fate of a star as it departs the main sequence?
28. These types of stars result in a catastrophic death?
29. These types of stars result in a gentle death?

Moon

30. Why do we observe the same side of the moon?
31. Which phases are waxing? Which phases are waning?
32. Know how to determine a particular moon phase based on an orbital diagram.
33. Know which moon phase and location in its orbit for solar and lunar eclipses.
34. There are _____ hours between a high and low tide. There are _____ hours between successive high or low tides.
35. Know which moon phase and location in its orbit for spring and neap tides.

Solar System

36. Know how to utilize pg. 15 of the ESRT, "Solar System Data"
37. These planets are known as the terrestrial planets? These planets are known as the jovian planets?
38. These celestial objects orbit the Sun between Mars and Jupiter?
39. These celestial objects could make it through an atmosphere and create an impact crater?
40. These celestial objects have a highly eccentric orbit as they orbit the Sun?
41. Sun-Centered Model =_____ Earth-Centered Model = _____

Structure

42. The _____ orbits the Sun. The _____ is located on one of the spiral arms of the _____. The _____ is one of 180 billion _____ in the _____.
43. When did the Big Bang happen?
44. When did the formation of Earth and the Solar System happen?
45. The Universe is currently (contracting -or- expanding) since the Big Bang.
46. Evidence comes from the (blue -or- red) shifts.

Sun's Path

47. N.H. Summer begins on _____, N.H. Winter begins on _____, N.H. Fall begins on _____, and N.H. Spring begins on _____
48. This latitude has the greatest intensity (direct ray) of insolation on 6/21: _____
49. This latitude has the greatest intensity (direct ray) of insolation on 12/21: _____
50. This latitude has the greatest intensity (direct ray) of insolation on 3/21, 9/21, 9/23: _____
51. The sun rises in the _____ and sets in the _____.
52. On 6/21, the sun rises _____ and sets _____.
53. On 12/21, the sun rises _____ and sets _____.
54. On 3/21 or 9/21 or 9/23, the sun rises _____ and sets _____.
55. The longer the length of the sun's path, the greater amount of daylight _____.
56. The noon sun is placed where the _____ ray of the sun is located.
57. Sometimes the noon sun can be at the _____, which would have the greatest intensity.
58. At the N.P. on 6/21, it has _____ hours of daylight. On 12/21, it has _____ hours of daylight. On 3/21, 9/21 or 9/23, it has _____ hours of daylight.
59. At the S.P. on 6/21, it has _____ hours of daylight. On 12/21, it has _____ hours of daylight. On 3/21, 9/21 or 9/23, it has _____ hours of daylight.

Answers:
1. counterclockwise; 2. 23.5°; 3. Polaris; 4. 23, 56, 4; 5. 15°, hour; 6. Day and Night, Foucault Pendulum, Coriolis Effect, and Star Trails; 7. Right-N.H. and left – S.H.; 8. counterclockwise; 9. The tilt remains parallel; 10. 365.26; 11. 1°, day; 12. Seasons, Constellations, Apparent Diameter of the Sun; 13. 7/3-7/4, 1/3-1/4; 14. 3; 15. distance between foci/length of major axis; 16. elliptical, Sun, foci; 17. decreases; 18. increases; 19. closer; 20. farther; 21. increases; 22. increases; 23. increases; 24. Inertia (forward motion) and Gravity (inward, pulled motion); 25. Nuclear Fusion; 26. As temperature increases (right to left), the star increases in size and luminosity. Hottest Stars = Blue, Coldest Stars = Red; 27. The star is in the process of dying. 28. Massive Stars; 29. Less Massive; 30. The moon makes one complete rotation at the same time it takes to complete one revolution around the Earth (both periods are 27.3 days); 31. Waxing = New to Full Moon phases Waning = Full to New Moon phases; 32 Look over the diagram we used in class; 33. Solar Eclipse = New Moon Phase, Lunar Eclipse = Full Moon phases; 34. 6 (slightly more), 12 (slightly more); 35. Spring Tides = New and Full Moon phases, Neap = First and Third/Last Quarter Moon phases; 36. There are many important columns that are connected to the terrestrial and jovian planets; 37. Terrestrial Planets = Mercury, Venus, Earth, and Mars, Jovian Planets = Jupiter, Saturn, Uranus, and Neptune; 38. Asteroids; 39. Meteorites; 40. Comets; 41. Heliocentric, Geocentric; 42. Earth, Sun, Milky Way, Milky Way, galaxies, Universe; 43. 10-17 b.y.a.; 44. 4.6 b.y.a.; 45. expanding 46. red (& cosmic background radiation); 47. 6/21, 12/21, 9/21 & 9/23, 3/21; 48. 23.5°N; 49. 23.5°S; 50. 0°; 51. east, west; 52. north of due east, north of due west; 53. south of due east, south of due west; 54. due east, due west; 55. hours; 56. direct; 57. zenith; 58. 24, 0, 12; 59. 0, 24, 12.