Astronomy Club of Augusta

Observing Questions and Answers

Spring - Summer

Questions:

1. (a) Name 12 large Maria we can see on the near side of the Moon. (b) Which is the largest?
2. What is the line of light and dark on the Moon called? Why is it so useful?
3. Name four 4 large craters on the western moon (East in our sky), named for astronomers. Which one was guillotined? Which is the largest crater on the near side of the moon? Find them.
4. Name and find the brightest spot on the moon.
5. Name and find the darkest spot on the moon.
6. How are Mercury, Venus and the Moon similar? Why?
7. Why does Mars seem so obvious and easy to find in the sky?
8. Name the largest division in the rings of Saturn.
9. Which trapezoidal constellation rising in the southeast tells us spring is here?
10. Name the pointer stars in the bowl of the Big Dipper. Why are they called that?
11. State how you can find Bootes and Virgo from the Big Dipper.
12. Name three stars in Virgo. Find them.
13. Correct this list of constellations in order of their rising in the east: Virgo, Corvus, Crater, Libra, Hydra, Scorpius.
14. Name the three 3 stars of the Summer Triangle.
15. Name the corresponding constellations of the Summer Triangle.
16. What beautiful double star is inside the Summer Triangle? What color is each star? Find it.
17. Why do we get a better view of Omega Centauri and Canopus at NMR-DSO than at most other places in this area?
18. Name the two brighter stars of Libra. Find them naked eye.
19. Name the heart and tail of Scorpius. Find them naked eye.
20. Name the brightest star in the head of Draco the Dragon. Find it.
21. The Teapot is an asterism in which constellation? Find it.
22. Draw, Name and Label the eight stars that form the Teapot.
23. Where is the center of our Milky Way Galaxy? Locate it.
24. What is the approximate value of c, and what does it represent?
25. What is the approximate value of one AU, and what does it represent?
26. What does this series of numbers represent: 1/3, 2/3, 1.0, 1,5, _, 5, 10, 20, 30, ~40?
27. How long does it take for light from the sun to reach earth? Show the calculation.
28. Build your own satellite.

Answers:

1. (a) Mare Frigoris, M. Crisium, M. Serenitatis, M. Tranquilitatis, M. Fecunditatis, M. Nectaris, M. Vaporum, M. Nubium, M. Humorum, M. Imbrium, M. Insullarum, Oceanus Procellarum. (See: *http://www.canaryzoo.com/space%20map%20of%20the%20moon.htm)*. (b) Mare Imbrium *http://cseligman.com/text/moons/lunarnearsidelabeled.jpg, http://en.wikipedia.org/wiki/Mare_Imbrium, Virtual Moon*
2. The Terminator. Shadows are longest here and show craters and surface features in best relief.
3. Tycho, Copernicus, Kepler, Bailly (was guillotined 1793, is the largest crater on the near side of the moon). *http://en.wikipedia.org/wiki/Bailly_(crater)*, *http://www.lpod.org/?m=20061124*
4. Aristarchus
5. Grimaldi
6. They all exhibit phases to us on Earth. They are/can be closer to the sun than Earth.
7. Mars travels along the ecliptic and is a distinctive reddish/orange color.
8. Cassini Division
9. Corvus the Crow
10. Merak and Dubhe. They point to Polaris, the North Star.
11. Follow the handle of the Big dipper and arc to ARCTURUS (in Bootes), then speed on to SPICA (in Virgo)
12. Spica, Vindemiatrix, Porrima
13. Hydra, Crater, Corvus, Virgo, Libra, Scorpius
14. Vega, Deneb, Altair
15. Lyra, Cygnus, Aquila
16. Alberio
17. NMR has a southern slope, so the horizon is lower to the south, and we can see more southern stars.
18. Libra: Zubeneschamali, Zubenelgenubi
19. Antares, Shaula & Lesath
20. Etamin. Learn Rastaban, Kuma and Grumium also.
    You can find Thuban by following the curve of the Little Dipper from Polaris through Kochab, then half way to Mizar in the Big Dipper.
21. Sagittarius
22. Kaus Borealis, Kaus Media, Kaus Australis, Alnasl, phi Sgr, Nunki (delta Sgr), tau Sgr, Ascella
23. Sagittarius Star Cloud, located one distance to the right and a little up from Alnasl.
24. c= ~186,000mps
25. AU= ~93 million miles, the distance from the Sun to Earth.
26. These numbers represent the approximate distance in AU of the planets from the sun. All planets are slightly elliptical, Pluto is very elliptical and therefore varies much more in its range of distance from the sun.
27. @sum(93,000,000m/186,000mps)*1m/60s = ~8 minutes
28. Build your own satellite. See: *http://spaceplace.nasa.gov/build-a-spacecraft/en/*

If you want to see these marvels in the real sky, come to the ACA Star Gaze.