

**FRAC Trivia Quiz #2**

**Question #1 (2 pts.):** What two words comprise the term **altazimuth**:

\_\_\_\_\_ and \_\_\_\_\_.

**Question #2 (1 pt.):** He lives in Miami, Fla. His sign-off is “Keep Looking Up, But Watch Where You Step.” He hosts the longest-running astronomy show in TV history, and he also sponsors two youth-oriented A. L. award programs. Who is he? (First and last name, please.)

\_\_\_\_\_

**Question #3 (2 pts.):** What states would you visit to see (a) Barringer Crater and (b) Wetumpka Crater?

A \_\_\_\_\_ B \_\_\_\_\_

**Question #4 (7 pts.):** List, from largest to smallest in order of their size, the seven planets other than Earth in our solar system.

1. \_\_\_\_\_ 2. \_\_\_\_\_ 3. \_\_\_\_\_ 4. \_\_\_\_\_  
5. \_\_\_\_\_ 6. \_\_\_\_\_ 7. \_\_\_\_\_

**Question #5 (4 pts.):** What do the following initials stand for?

A.A.V.S.O. \_\_\_\_\_

A.L.P.O. \_\_\_\_\_

E.O.S.O.C. \_\_\_\_\_

I.A.U. \_\_\_\_\_

**Question #6 (4 pts.):** (a) Name the two parts of the head of a comet, and (b) identify the two principal components of comets’ tails.

A. \_\_\_\_\_ and \_\_\_\_\_; B. \_\_\_\_\_ and \_\_\_\_\_

**Question #7 (3 pts.):** Give the familiar names of the three stars that comprise the Summer Triangle.

\_\_\_\_\_

**Question #8 (4 pts.):** With which bodies in our solar system are the following features associated?:

Mons Hadley \_\_\_\_\_ Olympus Mons \_\_\_\_\_

The Encke Division \_\_\_\_\_ The South Equatorial Belt \_\_\_\_\_

**Question #9 (6 pts.):** Answer the following True-False statements in the spaces provided:

\_\_\_\_\_ Sir William Herschel and Sir Isaac Newton lived at the same time and knew each other.

\_\_\_\_\_ Sir Isaac Newton invented the reflecting telescope.

\_\_\_\_\_ Polaris is one of the 50 brightest stars in the night sky.

\_\_\_\_\_ Ceres, the first asteroid to be discovered, is also the largest and brightest one.

\_\_\_\_\_ Asteroids are the only astronomical objects that may be named for living persons.

\_\_\_\_\_ Tycho Brahe had his nose cut off in a duel, and wore a gold nose.

**Question #10 (4 pts.):** What P-words fit the following definitions: (a) the apparent shift of a nearby object against a more distant background; (b) The lighter part of a sunspot; (c) The point in its orbit around the Earth at which the Moon is closest to the Earth; and (d) The gradual shift of the celestial poles and equinoxes.

A \_\_\_\_\_ B \_\_\_\_\_ C \_\_\_\_\_ D \_\_\_\_\_

**Question #11 (4 pts.):** Answer the following questions:

A-B: Identify the two moons of Mars: \_\_\_\_\_ and \_\_\_\_\_

C: Which of those two moons is closer to Mars? \_\_\_\_\_

D: Of the two Martian moons, which is larger? \_\_\_\_\_

**Question #12 (1 pt.):** Rhea, Tethys and Enceladus are moons of which planet?

\_\_\_\_\_

**Question #13 (1 pt.):** Which lies farther from the Sun, the Oort Cloud or the Kuiper Belt?

\_\_\_\_\_

**Question #14 (4 pts.):** Give the familiar names of the following Messier objects:

M51 \_\_\_\_\_ M64 \_\_\_\_\_

M97 \_\_\_\_\_ M104 \_\_\_\_\_

**Question #15 (4 pts.):** Match the following planetary nebulae with their constellations:

- |                                 |              |
|---------------------------------|--------------|
| _____ 1. Saturn Nebula          | a. Hydra     |
| _____ 2. The Blue Snowball      | b. Aquarius  |
| _____ 3. The Blinking Planetary | c. Andromeda |
| _____ 4. The Ghost of Jupiter   | d. Cygnus    |

**Question #16 (1 pt.):** What is the nearest galaxy to the Milky Way? It lies about 100,000 light-years from the Sun, and is visible to the unaided eye from the southern hemisphere.

\_\_\_\_\_

**Question #17 (1 pt.):** Although seasons overlap, which season is regarded as having the most of the 20 brightest stars in the night sky?

\_\_\_\_\_

**Question #18 (4 pts. ):** Give the familiar names of four stars that begin with the letters "A-L". (Note: We asked for familiar names, not "Alpha...")

\_\_\_\_\_ ; \_\_\_\_\_ ; \_\_\_\_\_ ; \_\_\_\_\_

**Question #19 (1 pt.):** Identify by his last name, full name or initials and last name, the American who first catalogued dark nebulae in 1927.

\_\_\_\_\_

**Question #20 (1 pt.):** Which is longer in terms of Earth-hours, an Earth day or a Martian day?

\_\_\_\_\_

**Question #21 (4 pts.):** In which constellations can the following nebulae be found?

Rosette Nebula \_\_\_\_\_ Eskimo Nebula \_\_\_\_\_

Helix Nebula \_\_\_\_\_ Pelican Nebula \_\_\_\_\_

**Question #22 (4 pts.):** Match the following stellar shapes with their constellations:

- |                                  |              |
|----------------------------------|--------------|
| _____ 1. The Water Jar           | a. Ophiuchus |
| _____ 2. The Hyades              | b. Pisces    |
| _____ 3. The Bull of Poniatowski | c. Aquarius  |
| _____ 4. The Circlet             | d. Taurus    |

**Question #23 (2 pts.):** Regarding the Double Cluster NGCs 869 and 884, (a) which is the more easterly of the two, and (b) which Messier object is closest to them?

A \_\_\_\_\_ B \_\_\_\_\_

**Question #24 (1 pt.):** What is the brightest double star in the night sky? \_\_\_\_\_

**Question #25 (2 pts.):** What L-words refer to (a) the edge of the visible disk of an object such as the Moon or a planet; and (b) the apparent wobbling of a celestial body in its orbit around another celestial object?

A \_\_\_\_\_ B \_\_\_\_\_

**Question #26 (1 pt.):** He was an intellectual rival of Sir Isaac Newton. He discovered Orion Nebula in 1656, and in the same year he discovered Saturn's moon Titan. Fittingly, the project to soft-land a probe on Titan bears his name. Who was this early giant of astronomy?

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**Question #27 (1 pt.):** Define the word "borealis." \_\_\_\_\_

**Question #28 (1 pt.):** He was history's first astronomer in modern terms. He mapped the locations of 1,080 stars and classified them according to six levels of brightness. His data, collected by Ptolemy, became the *Almagest*, the world's first star atlas. Who was he?

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**Question #29 (1 pt.):** Polaris, the North Star, is located  $1/2^\circ$  from the North Celestial Pole in the constellation Ursa Major. In which constellation is the South Celestial Pole located? It begins with the letter **O**.

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## FRAC Trivia II Answers

1. Altitude and azimuth.
2. Jack Horkheimer.
3. Arizona and Alabama.
4. Jupiter; Saturn; Uranus; Neptune; Venus; Mars; Mercury.
5. American Assn. of Variable Star Observers; Assn. of Lunar and Planetary Observers; Earth Orbiting Satellite Observers Club; International Astronomical Union.
6. (a) coma and nucleus; (b) dust and (ionized) gases.
7. Vega, Deneb and Altair.
8. THE MOON (Mons Hadley); MARS (Olympus Mons); SATURN (the Encke Division); JUPITER (the South Equatorial Belt).
9. "Sir William Herschel...": -- FALSE. Newton died in 1727, and Herschel was born in 1738.  
"Sir Isaac Newton..." -- FALSE. The reflector was invented by James Gregory in 1663; his design was improved by Newton 5 years later.  
"Polaris is one..." – TRUE. Polaris is the 49<sup>th</sup> brightest star.  
"Ceres, the first..." – FALSE. At 567 mi. in dia., Ceres is the largest asteroid, but 4 Vesta is brighter.  
"Asteroids are the..." – FALSE. Comets are the only astronomical objects that may be named for living persons. Asteroids may not be named for living persons.  
"Tycho Brahe had..." – TRUE.
10. (a) parallax; (b) penumbra; (b) perigee; (d) precession.
11. (a-b) Deimos and Phobos; © Phobos; (d) Phobos.
12. Saturn.
13. The Oort Cloud. (At 100,000 Astronomical Units (one A. U. is 93 million miles, the distance from the Earth to the Sun), the Oort Cloud is 2-3 times farther out than the Kuiper Belt.
14. WHIRLPOOL GALAXY (M51); BLACK EYE GALAXY (M64); OWL NEBULA(M97); SOMBRERO GALAXY (M104).
15. 1-B; 2-C; 3-D; 4-A.
16. Large Magellanic Cloud.
17. Winter (8). The others are: Spring (7); Summer (4); and Fall (1).
18. Albireo; Alcor; Algol; Altair; Aldebaran; Alamak; Albali; Alchena; Alchiba; Alcyone; Alderamin; Alfirk; Algedi; Algeiba; Algenib; Algorab; Alioth; Alkaid; Alkarulops; Alkes; Almach; Al Nair; Alnasi; Alnilam; Alnitak; Alpheratz; Alphard; and Alphecca.
19. E. E. (Edward Emerson) Barnard. (pronounced BARN erd)
20. MARTIAN DAY. (A Martian day is 24.6229 Earth-hours long.
21. MONOCEROS (Rosette Nebula); GEMINI (Eskimo Nebula); AQUARIUS (Helix Nebula); CYGNUS (Pelican Nebula).
22. 1-C; 2-D; 3-A; 4-B. (The Bull of Poniatowski is a V-shaped asterism, similar to [but smaller than] the V-shaped head of Taurus [the Bull]. Located in northern Ophiuchus, the Bull was named for Stanislaus Poniatowski, King of Poland from 1764-1795, by its discoverer, the Abbe Poczobut.)

23. (a) NGC 884; (b) M103 (in Cassiopeia). (Also accept: M76 [in Perseus].)
24. Sirius
25. (a) Limb; (b) libration.
26. (Christiaan) Huygens.
27. Northern (or North).
28. Hipparchus (150 B. C.)
29. Octans.

### FRAC Trivia II Tiebreaker Questions

Question #1: "HST" was the initials of our 33<sup>rd</sup> president, Harry S. Truman. What do the initials "HST" refer to in astronomy?

Question #2: Which lies higher in the sky, the celestial equator, the meridian, or the zenith?

Question #3: True or False: The first globular cluster to be discovered was M13.

Question #4: Which of the three stars in Orion's belt – Alnitak, Alnilam or Mintaka – also served as the title of a novel by the poet James Dickey?

Question #5: Why do so many stars' popular names begin with the letters "AL"?

Question #6: In which constellations are these "AL" stars found: (a) Altair; (b) Albireo; (c) Algol; (d) Aldebaran; (e) Alcor?



### Answers to Trivia II Tiebreaker Questions

Question #1: Hubble Space Telescope.

Question #2: Zenith

Question #3: FALSE. (M22 was discovered by a German astronomer in 1665. M13 was discovered 49 years later in 1714, and was first mentioned by Edmond Halley in 1715.)

Question #4: Alnilam.

Question #5. They were named by middle-eastern (accept: Arab) astronomers. "Al" is Arabic for "the".

Question #6: (a) Aquila; (b) Cygnus; (c) Perseus; (d) Taurus; (e) Ursa Major.