

1. Which of these gets so bright as to be seen in daylight at times?
 - A) Mercury
 - B) Venus
 - C) Jupiter
 - D) Saturn
 - E) Mars
2. Which three worlds have almost identical densities?
 - A) Deimos, Phobos, and our Moon
 - B) Mercury, Earth, and Mars
 - C) Mercury, Venus, and Earth
 - D) Mercury, Mars, and our Moon
 - E) Earth, Moon, and Mars
3. Which planet shows the widest range of surface temperatures between day and night?
 - A) Mars
 - B) Venus
 - C) Mercury
 - D) Earth
 - E) Uranus
4. How does Mercury's rotation relate to the Sun?
 - A) Its year is much shorter, only 88 days, than its slow rotation of 243 days on its axis.
 - B) Its day is the same length as its year.
 - C) Its rotation rate is 2/3 as long as its year, due to tidal resonances.
 - D) It does not spin at all, being tidally stopped by the solar tides.
 - E) It always keeps one face tidally locked toward the Sun, as our Moon does with us.
5. Venus' rotation
 - A) takes longer than its orbit around the Sun.
 - B) is counterclockwise, like the other planets.
 - C) is tidally locked to the Sun.
 - D) is the fastest of the terrestrial planets.
 - E) axis is highly tilted to its orbital plane, causing large seasonal changes.
6. Mercury presents the same side to the Sun
 - A) every third orbit.
 - B) every other orbit.
 - C) every 12 hours.
 - D) Twice every orbit.
 - E) all the time, just like our Moon.
7. The atmospheric pressure on Venus
 - A) shows an extreme change with the seasons.
 - B) is about the same as on Mercury.
 - C) causes variations in surface temperature.
 - D) is much higher than on Earth.
 - E) is much lower than on Earth.
8. What is the chief component of the Venusian atmosphere?
 - A) nitrogen
 - B) hydrogen
 - C) carbon dioxide
 - D) sulfuric acid
 - E) oxygen
9. The chief gas in the martian atmosphere is
 - A) hydrogen.
 - B) carbon dioxide.
 - C) nitrogen.
 - D) helium.
 - E) methane.
10. Why are Mars' seasons more extreme than those of the earth?
 - A) Mars' orbit is more eccentric than our almost circular one.
 - B) Mars' axial tilt is slightly more than our 23.5 degrees.
 - C) Mars' seas dried up long ago.
 - D) Mars' weather is driven by evaporation from the polar ice in its summer.
 - E) All of these contribute to the huge barometric changes that Mars experiences.
11. Which body has the densest atmosphere?
 - A) Venus
 - B) Mars
 - C) our Moon
 - D) Earth
 - E) Mercury
12. One of the effects of Mercury's very slow spin is
 - A) extreme variations in its surface temperature.
 - B) an intensely powerful magnetic field.
 - C) large variations in the size of its polar cap.
 - D) tectonic activity.
 - E) wind patterns that are slow, but global in size.
13. Mercury's surface most resembles which of these?
 - A) the earth's deserts
 - B) the lunar mare
 - C) Venus' polar regions
 - D) the lunar far side
 - E) Mars' deserts
14. The scarps on Mercury were probably caused by
 - A) tectonic activity.
 - B) volcanism.
 - C) a tidal bulge.
 - D) meteorite bombardment.
 - E) the crust cooling and shrinking.
15. What did radar astronomers find in the polar regions of Mercury?
 - A) rift valleys.
 - B) water ice that never melts in the deep craters
 - C) polar caps of dry ice that vary seasonally, much like Mars
 - D) large mare basins, such as near our Moon's south pole
 - E) auroral displays much like Earth's

16. Our most detailed maps of Venus come from
- the Magellan spaceprobe.
 - manned landings.
 - Earth based radio telescopes.
 - the Hubble Space Telescope.
 - direct observation from Earth based optical telescopes.
17. The surface of Venus can be observed with
- radar observations from Arecibo
 - the Hubble Space Telescope.
 - the Mt. Wilson 100" telescope
 - most amateur telescopes.
 - All of these have provided detailed observations about the surface of our sister planet.
18. What percentage of Venus could be characterized as continental?
- less than 10%, almost all of Venus is very low in elevation
 - about 75%, much like our Moon
 - 90%, Venus has very few deep impact craters
 - about 50%, more like Mars
 - about 25%, similar to Earth
19. Which statement is true of Venus' surface?
- There is an extensive hydrosphere.
 - There are no shield volcanoes.
 - It has remained unchanged for billions of years.
 - Atmospheric pressure is very low.
 - There are two continent sized uplands.
20. Like Olympus Mons, volcanoes on Venus
- have been extinct for billions of years.
 - only form at the equator.
 - form where continental plates collide.
 - are much larger than typical volcanoes on Earth.
 - are shield volcanoes.
21. Valles Marineris is the most striking example of a(n)
- shield volcano.
 - rift valley.
 - scarp.
 - oceanic trench.
 - impact crater.
22. The deepest depression found on the surface of Mars is the
- Mare Crisium.
 - Mariannas Trench.
 - Caloris basin.
 - Hellas Basin of Mars.
 - Valles Marineris rift,
23. We have not yet found meteoroids and meteorites derived from
- the Moon.
 - comets.
 - Venus.
 - asteroids.
 - Mars.
24. The NASA missions that landed on Mars in 1976 were the
- Vikings I and II.
 - Voyagers.
 - the Galileo probe.
 - Venera 14.
 - Magellan lander.
25. Which of the following characterizes a shield volcano?
- It sits above a hot spot in the planet's mantle.
 - It can erupt only briefly before being dragged off the hot spot.
 - It cannot get as high as Mt. Everest before the thin crust starts slumping.
 - It has very steep slopes.
 - It cannot grow very large, for it has a very short span of eruption.
26. What is true of Mars?
- Its atmosphere is mostly water vapor.
 - Iron oxide on the surface is responsible for its reddish color.
 - Definite microfossils have been found.
 - A pool of water was discovered by the Mars Rover.
 - Its magnetic field is stronger than Earth's
27. That the Tharsis region on Mars has so few craters
- proves tectonic activity is taking place.
 - is due to annual flooding and water erosion.
 - suggests it is the youngest region on the planet.
 - suggests it is at the center of a particularly strong magnetic field.
 - is due to the regions very low elevation.
28. The largest difference between Mars' northern and southern hemispheres is that
- the northern hemisphere appears younger, with ancient seabeds preserved.
 - the southern hemisphere appears older, with more lava flows.
 - all of the early probes flew past the southern hemisphere, so we know it better now.
 - the northern is overall higher, despite some high mountains near the south pole.
 - the southern hemisphere is darker, much like the mare side of our Moon.
29. The presence of a Mercurian magnetic field surprised the planetary scientists on the Mariner 10 team because
- it's still too hot for its core to have differentiated.
 - the dynamo theory predicted that Mercury was spinning too slowly for one.
 - Mercury lacks an iron core.
 - Mercury spins too rapidly to produce a stable dynamo.
 - Mercury is low in iron.

30. Much of the water on Mars
- A) is found in deep pools near the equator.
 - B) is locked in the seasonal ice cap.
 - C) is in the form of clouds.
 - D) lies in shallow pools near the poles.
 - E) is thought to be in a layer of permafrost just below the surface.