

FAMILY NAME : _____
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Signature: _____

ASTRONOMY 4

DeAnza College
Fall 2017

Second Midterm Exam

MAKE ALL MARKS DARK AND COMPLETE.

Instructions:

1. On your Parscore sheet (using a #2 pencil):
 - a. Write and fill in the bubbles for your 8-digit ID number. Leave the right-most two columns blank.
 - b. Write and bubble in your name in LastName FirstName form (i.e. family name then given name separated by a space). Don't leave any blank spaces on the left.
 - c. Leave blank: areas for phone number, exam number, and code.
2. Please print your name and sign your name in the appropriate spaces at the top of this page.
3. **This is a closed-book, closed-notes exam. No reference materials of any kind are to be used during the exam.**
4. Your exam should have five pages (including this one).
Please check to make sure that it does.
5. Mark your answers on this booklet as well as filling in the bubbles on your Parscore sheet.
6. Turn in your Parscore sheet inside your exam booklet.

Good luck!

On your Parscore sheet:

A = A correct answer (“True”)

B = An incorrect answer (“False”)

A. Which of the following is/are true about the moon?

- T F 1) The first quarter moon is highest in the sky at about sunset.
- T F 2) The full moon is highest in the sky at about midnight.
- T F 3) The third quarter moon rises at about midnight.
- T F 4) When the moon rises or sets or is highest in the sky does not depend on its phase.

B. Why does the Moon show phases during the course of a month?

- T F 5) The Earth’s shadow falls on the Moon to different degrees as the Moon goes around.
- T F 6) The angle between our lines of sight to the Moon and Sun changes and we see differing amounts of reflected sunlight from the Moon.
- T F 7) The Moon shines by light reflected from the Earth, so it looks different depending on whether it’s day or night on the side of the Earth facing the Moon.

C. What is the difference between a meteor and a meteorite?

- T F 8) A meteor is a small piece of matter that enters Earth’s atmosphere and burns due to friction, and a meteorite is a piece of a meteor that hits the ground.
- T F 9) A meteorite is a small piece of matter that enters Earth’s atmosphere and burns due to friction, and a meteor is a piece of a meteorite that hits the ground.
- T F 10) There is no difference; they are the same thing.

D. What is the “ice line” (or “snow line”)?

- T F 11) the distance from a star beyond which planets like Jupiter are expected to form.
- T F 12) the distance north or south of a planet’s equator within which water can be expected to remain liquid.
- T F 13) a kind of formation on a planet’s surface that proves that glaciers used to exist there.

E. How are astronomers able to explore the layers of the sun below the photosphere?

- T F 14) By analyzing vibrations of the photosphere.
- T F 15) Through "helioseismology."
- T F 16) By sending spaceprobes into the sun's interior.
- T F 17) Trick question – the photosphere is part of Earth, not part of the sun.

F. What single force creates and guides the Sun’s surface phenomena?

- T F 18) Gravity.
- T F 19) Nuclear force.
- T F 20) Magnetism.
- T F 21) Plasmodic.

- G. Which of the following is/are true about the Sun's core?
- T F 22) It is made of plasma.
 - T F 23) It is made primarily of iron.
 - T F 24) It is where the Sun's energy is generated by hydrogen fusion.
 - T F 25) It is where coronal mass ejections occur.
- H. Which of the following is/are phenomena of the solar surface?
- T F 26) prominences
 - T F 27) solar flares
 - T F 28) sunspots
 - T F 29) nuclear energy generation
- I. What is a planetesimal?
- T F 30) "Planetesimal" is another word for a satellite (moon) going around a planet.
 - T F 31) It was a small body that formed from the solar nebula and eventually grew into a proto-planet.
 - T F 32) It is a disk of dusty material seen in Hubble Space Telescope pictures of nearby stars.
 - T F 33) "Planetesimal" is another word for particles that escape from the solar system.
- J. Which of the following was/were used in the Kepler project to discover exoplanets?
- T F 34) The "wobble" method.
 - T F 35) The "transit" method.
 - T F 36) Using very high magnification to see little planets around other stars.
 - T F 37) Measuring minute changes in a star's speed.
 - T F 38) Detecting minute changes in a star's brightness.
- K. Which of the following is/are true about the Kepler mission?
- T F 39) It has discovered thousands of exoplanets.
 - T F 40) It has detected only about ten exoplanets, all much bigger than Earth.
 - T F 41) It has searched the entire sky for nearby stars that might have planets.
 - T F 42) It has lasted about thirty years.
 - T F 43) It studied the Sun's appearance during lunar eclipses.
- L. If you looked back at the Earth from the Moon when the Moon was in its first quarter phase, what phase would the Earth appear to be in?
- T F 44) first quarter
 - T F 45) third quarter
 - T F 46) waxing gibbous
 - T F 47) waxing crescent
 - T F 48) trick question – the Earth doesn't have "phases."

- M. If you see the Moon rising at about midnight, which of the following describes how it looks?
- T F 49) a thin crescent
 - T F 50) a fully-illuminated ball (full moon)
 - T F 51) one half of the side toward us is illuminated
 - T F 52) It could have any appearance, since when it rises and how it looks are not related to each other.
- N. What is the moon's phase when a solar eclipse happens?
- T F 53) first quarter
 - T F 54) full
 - T F 55) third quarter
 - T F 56) new
 - T F 57) A lunar eclipse can happen during any phase of the moon.
- O. An "annular eclipse"
- T F 58) is an eclipse in which the Moon covers only the central part of the Sun, leaving a ring (or "annulus") of bright light around the Moon's silhouette.
 - T F 59) occurs once a year.
 - T F 60) can happen if the Moon is at perigee.
 - T F 61) can happen if the Moon is at apogee.
- P. What is the Solar Nebula Theory?
- T F 62) It is the proposal that the Sun's energy comes from a cloud of plasma around it.
 - T F 63) It is the proposal that the universe formed from a huge explosion.
 - T F 64) It is the proposal that the planets formed from the same cloud of gas and dust that formed the Sun.
 - T F 65) It predicts that planet formation is a natural part of star formation and not due to catastrophic events.
- Q. According to the Solar Nebula theory, how was the solar nebula cleared away?
- T F 66) When the sun became luminous enough, the gas and dust were blown away into space.
 - T F 67) It all eventually became incorporated into planets.
 - T F 68) It was never cleared away.
- R. What phase(s) of the moon comes between first quarter and waning gibbous in one lunation?
- T F 69) third quarter
 - T F 70) waxing crescent
 - T F 71) full moon
 - T F 72) waning crescent
 - T F 73) waxing gibbous.

- S. Which of the following is/are classes of objects in our solar system?
T F 74) exoplanets
T F 75) Kuiper Belt objects
T F 76) asteroids
- T. Which of the following is/are Jovian planets?
T F 77) Jupiter
T F 78) Uranus
T F 79) Saturn
T F 80) Neptune
T F 81) Pluto
- U. *All* of the major planets
T F 82) orbit the Sun in the same direction.
T F 83) spin on their axes in the same direction.
T F 84) orbit in about the same plane as the Sun's equator.
- V. Which of the following is/are true about the terms *rotation* and *revolution*?
T F 85) *Rotation* means spin on an axis
T F 86) *Revolution* means orbiting around something else
T F 87) The Earth's *revolution* period is one year
T F 88) The two terms mean the same thing.
- W. Which of the following is/are true about motions in the solar system that cause changes in the sky as seen from Earth?
T F 89) Earth rotates counterclockwise as seen from the North.
T F 90) Earth revolves counterclockwise as seen from the North.
T F 91) The Moon revolves counterclockwise as seen from the North.
T F 92) The planets revolve counterclockwise as seen from the North.
- X. Which of the following do you live in?
T F 93) The Milky Way Galaxy
T F 94) The Local Group
T F 95) The Virgo Supercluster
- Y. Galileo used his observations of the changing phases of Venus to demonstrate that
T F 96) the Sun moves around the Earth.
T F 97) the Universe is infinite in size.
T F 98) the Earth is a sphere.
T F 99) the Moon orbits around the Earth.
T F 100) Venus follows an orbit around the Sun rather than around the Earth

**PLEASE TURN IN YOUR EXAM WITH YOUR
PARSCORE INSIDE THIS EXAM BOOKLET.**