

Name: _____

Intro Astro Lab Quiz Prep: Lab 6: Galilean Moons of Jupiter

Instructions: There are X multiple-choice problems each worth 1 mark for a total of X marks altogether. Choose the **BEST** answer, completion, etc. Leave no answers blank. If you do not know answer, eliminate wrong ones and guess. Read all responses carefully. **NOTE** long detailed responses won't depend on hidden keywords: keywords in such responses are bold-faced capitalized.

This is a $2X$ minute quiz.

Answer Table for the Multiple-Choice Questions

	a	b	c	d	e		a	b	c	d	e
1.	O	O	O	O	O	11.	O	O	O	O	O
2.	O	O	O	O	O	12.	O	O	O	O	O
3.	O	O	O	O	O	13.	O	O	O	O	O
4.	O	O	O	O	O	14.	O	O	O	O	O
5.	O	O	O	O	O	15.	O	O	O	O	O
6.	O	O	O	O	O	16.	O	O	O	O	O
7.	O	O	O	O	O	17.	O	O	O	O	O
8.	O	O	O	O	O	18.	O	O	O	O	O
9.	O	O	O	O	O	19.	O	O	O	O	O
10.	O	O	O	O	O	20.	O	O	O	O	O

- Galileo called the 4 Jupiter moons he discovered the Medicean stars to help in obtaining the patronage of the Medici—the rulers of his native Florence—it worked. But posterity, ruling that the Medici have done well enough in fame in other areas, has named these moons the:
 - Galilean moons.
 - Dead Sea moons
 - Cosmian stars
 - Keplerian moons
 - Gan De stars
- The projected motion on the sky of the Galilean moons is:
 - uniform circular motion.
 - sinusoidal motion.
 - uniform linear motion.
 - elliptical orbital motion.
 - a state of rest.
- Uniform circular motion seen edge-on is:
 - uniform circular motion.
 - sinusoidal motion.
 - uniform linear motion.
 - elliptical orbital motion.
 - a state of rest.
- “Let’s play *Jeopardy!* For \$100, the answer is: This/these early telescopic discovery/discoveries proved that the Earth was not the center of motion of all astronomical bodies as was posited by Aristotelean cosmology and the Ptolemaic geocentric system.”

What is/are _____, Alex?

 - sunspots
 - the partial resolution of the Milky into a quasi-infinity stars
 - the terrestrial-like geological features of the Moon
 - Neptune
 - the 4 largest moons of Jupiter and the full phases of Venus
- Since the orbital periods of the Galilean moons are constant to high accuracy, Galileo suggested that they be used as a
 - barometer.
 - speedometer.
 - pedometer.
 - marine chronometer (i.e., high accuracy portable clock) for navigation.
 - ornithopter.
- “Let’s play *Jeopardy!* For \$100, the answer is: His 3 laws of planetary motion also apply to the Galilean

moons of Jupiter.”

Who is _____, Alex?

- a) Aristarchus of Samos (c.310–c.230 BCE)
- b) Nicolaus Copernicus (1473–1543)
- c) Johannes Kepler (1571–1630)
- d) Galileo Galilei (1564–1642)
- e) Caroline Herschel (1750–1848)

7. Jupiter has:

- a) no moons.
- b) 1 moon.
- c) 2 moons.
- d) 3 moons.
- e) more than 60 moons.

8. Jupiter has 5 moons closer than Europa. They are:

- a) Leto, Europa, Ganymede, Leda, Io.
- b) Metis, Adrastea, Ganymede, Leda, Europa.
- c) Metis, Adrastea, Amalthea, Thebe, Callisto.
- d) Metis, Adrastea, Callisto, Thebe, Io.
- e) Metis, Adrastea, Amalthea, Thebe, Io.

9. The Galilean moons of Jupiter are:

- a) Io, Europa, Ganymede, Leda.
- b) Leto, Europa, Ganymede, Leda.
- c) Io, Europa, Ganymede, Callisto.
- d) Leto, Europa, Demeter, Leda.
- e) Leto, Semele, Demeter, Leda.

10. The largest Galilean moon and the largest moon in the Solar System is:

- a) the Moon.
- b) Ganymede.
- c) Europa.
- d) Amalthea.
- e) Titan.

11. The Galilean moons in order of increasing orbital radius are Io, Europa, Ganymede, and:

- a) Psamanthe.
- b) Amalthea.
- c) Leda.
- d) Arche.
- e) Callisto.

12. If you stood on Io and saw Jupiter, it would set:

- a) in about 1 hour.
- b) in about 1 day.
- c) in about 1 week.
- d) never.
- e) every 10 minutes or so.

13. The 3 innermost Galilean moons exhibit a 1:2:4 Laplace resonance of the orbital periods. This means that the ratio of the orbital periods of the moons going outward is nearly exactly _____.

- a) 1:2:4
- b) 1:2:3
- c) 1:1:3
- d) 1:2:1
- e) 1:1:1

14. Because of its proximity to Jupiter and slightly non-circular orbit, _____ has strong tidal flexing which gives it a lot of internal heating which makes it the most geologically active body in the solar system—every time you look at it, it seems, a volcano is erupting somewhere.

- a) Amalthea
- b) Io
- c) Europa
- d) Ganymede
- e) Callisto