

Name: \_\_\_\_\_

## Intro Astro Lab Prep Quiz: Lab 1: Constellations

**Instructions:** There are 10 multiple-choice problems each worth 10 marks for a total of 100 marks altogether. Choose the **BEST** answer, completion, etc., and **DARKEN** fully the appropriate circle on the table provided below. 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 10 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

001 qmult 00110 1 1 2 easy memory: naked-eye astronomical objects

1. Naked-eye astronomical objects include the Moon, the 5 non-Earth inner planets, bright stars, constellations, \_\_\_\_\_, and, under dark-sky conditions, a few nebulae (meaning cloudy objects in this context).

- a) the moons of Jupiter    b) the Milky Way    c) the ionosphere    d) cumulus clouds  
e) ions

**SUGGESTED ANSWER:** (b)

**Wrong answers:**

- e) Well you do see them in a sense, but this is not the best answer.

**Redaction:** Jeffery, 2013jan01

001 qmult 00200 1 4 2 easy deducto-memory: celestial sphere defined

2. "Let's play *Jeopardy!* For \$100, the answer is: It is an imaginary sphere centered on the Earth, set at infinity, and used to project all astronomical objects on for mapping."

What is the \_\_\_\_\_, Alex?

- a) celestial globe    b) celestial sphere    c) celestial cube    d) Boundless  
e) sphere of the fixed stars

**SUGGESTED ANSWER:** (b)

**Wrong answers:**

- d) This is Anaximander's (c. 610–c. 546 BCE) principle or substance for all things.  
e) This is the historical ancestor of the modern celestial sphere.

**Redaction:** Jeffery, 2013jan01

001 qmult 00220 1 4 5 easy deducto-memory: the meridian defined

3. “Let’s play *Jeopardy!* For \$100, the answer is: It is a great circle on the celestial sphere that intersects due north, the zenith, due south, and the nadir.”

What is the \_\_\_\_\_, Alex?

- a) ecliptic    b) zenith    c) nadir    d) meringue    e) meridian

**SUGGESTED ANSWER:** (e)

**Wrong answers:**

- a) As Lurch would say AAAARGH.

**Redaction:** Jeffery, 2013jan01

001 qmult 00400 1 4 4 easy deducto-memory: planisphere defined

4. “Let’s play *Jeopardy!* For \$100, the answer is: It is a primitive sort of analog computer used for calculating the local sky above the horizon for any time for a fixed latitude.”

What is a \_\_\_\_\_, Alex?

- a) telescope    b) cellphone    c) sky map    d) planisphere    e) celestial globe

**SUGGESTED ANSWER:** (d)

**Wrong answers:**

- b) Nowadays this will calculate the local sky and a lot more, but it is not analog.  
c) This is not a computer in any reasonable sense of the word.

**Redaction:** Jeffery, 2013jan01

001 qmult 00510 1 1 1 easy memory: named stars

5. The brightest stars in the sky often have traditional names mostly derived either from Latin or Arabic. These stars are called:

- a) named stars.    right    b) unnamed stars.    c) unnameable stars    d) dim stars.  
e) death stars.

**SUGGESTED ANSWER:** (a)

**Wrong answers:**

- e) Oh, c’mon.

**Redaction:** Jeffery, 2013jan01

001 qmult 00520 1 1 5 easy memory: star name spelled backwards

6. Which of the following named stars is an astronaut’s name spelled backwards?

- a) Aldebaran    b) Algol    c) Ankaa    d) Antares    e) Navi

**SUGGESTED ANSWER:** (e) Astronaut Gus Grissom gave the star Gamma Cassiopeiae another name, his own middle name Ivan spelled backwards.

**Wrong answers:**

- b) Logla?

**Redaction:** Jeffery, 2013jan01

001 qmult 00540 1 1 1 easy memory: Bayer designation alpha stars

7. In the Bayer designation scheme for bright stars in constellations, the star of highest apparent brightness in a constellation is **USUALLY** usually labeled:

- a) alpha ( $\alpha$ ).    b) beta ( $\beta$ ).    c) gamma ( $\gamma$ ).    d) delta ( $\delta$ ).    e) epsilon ( $\epsilon$ ).

**SUGGESTED ANSWER:** (a)

**Wrong answers:**

- b) C’mon.

**Redaction:** Jeffery, 2013jan01

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001 qmult 00550 1 1 4 easy memory: Bayer designation 2nd brightest star in Taurus

8. What is the Bayer designation for the 2nd brightest star (by tradition if not always in fact) in the constellation Taurus?

a)  $\alpha$  Orionis.    b)  $\beta$  Orionis.    c)  $\alpha$  Tauri.    d)  $\beta$  Tauri.    e)  $\gamma$  Tauri.

**SUGGESTED ANSWER:** (d)

Also called Elnath.

One has to insert the “by tradition” in the question since the Bayer designations sometimes do not correspond to the actual brightness order. Bayer or his acolytes sometimes got the brightness order wrong—they goofed—understandable in the pre-modern era.

**Wrong answers:**

- a) Why would it be in Orion?  
c) Would the 2nd brightest star be an alpha?

**Redaction:** Jeffery, 2013jan01

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001 qmult 00600 1 4 4 easy deducto-memory: constellation defined

9. “Let’s play *Jeopardy!* For \$100, the answer is: This astronomical object is traditionally defined as a traditionally recognized group of stars that are relatively close in angle on the sky. In three-dimensional space, the stars can be very far apart and they are usually not physically interacting with each other. In modern astronomy, the object is defined as a patch on the sky. There are only 88 of such modern objects each containing their traditional analogue. The 88 patches tile the whole sky without overlap. Thus, any other astronomical object can be located in a patch.”

What is a \_\_\_\_\_, Alex?

a) galaxy    b) planetary system    c) nebula    d) constellation    e) planisphere

**SUGGESTED ANSWER:** (d)

**Wrong answers:**

- a) As Lurch would say AAAARGH.

**Redaction:** Jeffery, 2013jan01

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001 qmult 00610 1 1 4 easy memory: constellation appearance

10. Overwhelmingly most constellations look \_\_\_\_\_ like the things they are named for.

a) exactly    b) nearly exactly    c) 70 %    d) nothing much    e) exactly inversely

**SUGGESTED ANSWER:** (d)

The suggested answer is a strong statement, but it is closer to the truth than any of the others.

Usually the object a constellation is named for can be mapped onto the constellation with stars located at critical points. But the mapping is highly non-unique. If a person saw a set of constellation stars, they could plausibly map almost anything they like onto to it.

There are a few constellations which look like the thing they are named for, but still not uniquely so. For example, the Big Dipper does look like a dipper. But it has also been called the Wain (i.e. wagon) and the Plough, and it is part of Ursa Major (the Big Bear).

**Wrong answers:**

- e) A nonsense answer.

**Redaction:** Jeffery, 2013jan01

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001 qmult 00630 1 1 3 easy memory: three northern sky constellations

11. Three constellations relatively near the north celestial pole (the NCP) are:

a) Mars, Jupiter, Pluto.    b) Ursa Major, Ursa Minor, the Southern Cross.  
c) Ursa Major, Ursa Minor, Cassiopeia.    d) Ursa Major, Ursa Minor, the Northern Cross.  
e) Frankenstein, Dracula, the Mummy.

**SUGGESTED ANSWER:** (c)

**Wrong answers:**

- a) Oh, c'mon.

**Redaction:** Jeffery, 2013jan01

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001 qmult 00750 1 1 1 easy memory: your sign is Aries

12. Say the Sun was in the sign of Aries (which is approximately where the constellation Aries was in 500 BCE) when you were born. Your astrological sign is:

- a) Aries.
- b) Scorpio.
- c) Canis Major.
- d) Democritus.
- e) Taurus.

**SUGGESTED ANSWER:** (a)

**Wrong answers:**

- c) Not a zodiac constellation.
- d) He ought to have a constellation. I think we could boot out Ophiuchus. Only very rare people would be Democrituses.

**Redaction:** Jeffery, 2013jan01