

ASTR 2000 HOMEWORK #8 ~~Due Nov 12th~~ For your understanding

NAME: \_\_\_\_\_

1. Define or describe the terms below by highlighting their similarities and differences. Use the back of page 3 if you need more space. Clearly identify the letter [ a) etc...]

a). The Zodiac constellations as contrasted with Zodiac signs. Explain why there is a difference.

b). A planetary conjunction. Describe the possible similarities and/or differences in the *phase* of Venus and the Moon when they are conjunct in the morning sky.

c). Astronomy and Astrology

d). Define the Principle of Hermes (also called the "Hermitian Principle") and explain why it is named after Hermes (Mercury).

e). Explain what the God Mithras and the Mithraic Mysteries religion have to do with the precession of the equinoxes.

2. Choose the constellation which is the astronomical counterpart to your astrological "Sun sign". That is, the astrological sign which the Sun was in when you were born. My birthday is: \_\_\_\_\_  
My "Astrological Sun sign" is: \_\_\_\_\_

a). In the space below sketch the appearance of your Sun sign zodiac constellation as it appears in the sky when it crosses the meridian (star charts are posted for your use if needed under homework #8 on the class website). Distinguish the brighter and dimmer stars with larger and smaller dots respectively. Name any very bright (First magnitude) stars in your Sun sign constellation.

b). At what time of the year would your constellation be visible in the early evening hours (approximately one hour after dark)? Where in the sky would you look for your constellation at that time? Briefly describe how you would locate this constellation in the sky.

c). Use the remainder of this page to describe some of the "lore" of your Sun sign constellation. The book "The Secret Language of the Stars and Planets" gives the Greek/Babylonian view. "Stars of the First People" gives an alternative Native American view to many of these constellations. Both are on reserve at the Math-Physics Library.

3. The Great Pyramids at Giza are the only remaining member of the Seven Wonders of the Ancient World. Besides the remarkable engineering feat and cooperative effort required to construct these marvels, the accuracy with which the sides of the pyramids are aligned north-south-east-west is astounding (< a few arc-minutes, where 1 arc-minute = 1/60<sup>th</sup> of a degree)!

A few Egyptologists suggest that the Sphinx was not built during the same era as these Great Pyramids (circa 2500 B.C.E.) but rather at a MUCH earlier time. This speculation is based upon the resemblance between the Sphinx and a Lion, suggesting to some (mostly amateur) Egyptologists that the Sphinx was aligned with the constellation Leo when it rose heliacally at Equinox dawn.

To what exact direction does the Sphinx face, given that it faces a zodiac constellation rising at equinox dawn? Explain.

What zodiac constellation rose heliacally on the Spring equinox when the Great Pyramids were built (circa 2500 BCE)?

Approximately in what century would the Sphinx have been constructed to align with the heliacal rise of the constellation of Leo at the Spring Equinox?

FOR YOUR USE FROM A PREVIOUS HOMEWORK:

Table 1: The Babylonian/Greek Zodiac

| Constellation Name | Depiction    | Sun in Constellation | Astrological Month | Visible in Early Evening |
|--------------------|--------------|----------------------|--------------------|--------------------------|
| SUN's location :   |              | TODAY (2000 CE)      | in 0 CE            |                          |
| Pisces             | Two Fishes   | 21 Mar – 20 Apr      | 21 Feb – 20 Mar    | Fall                     |
| Aries              | Ram          | 21 Apr – 20 May      | 21 Mar – 20 Apr    | Fall/Winter              |
| Taurus             | Bull         | 21 May – 20 June     | 21 Apr – 20 May    | Winter                   |
| Gemini             | Twins        | 21 June – July 20    | 21 May – 20 June   | Winter                   |
| Cancer             | Crab         | 21 July – 20 Aug     | 21 June – 20 July  | Winter/Spring            |
| Leo                | Lion         | 21 Aug – 20 Sept     | 21 July – 20 Aug   | Spring                   |
| Virgo              | Maiden       | 21 Sept – 20 Oct     | 21 Aug – 20 Sept   | Spring                   |
| Libra              | Scales       | 21 Oct – 20 Nov      | 21 Sept – 20 Oct   | Summer                   |
| Scorpio            | Scorpion     | 21 Nov – 20 Dec      | 21 Oct – 20 Nov    | Summer                   |
| Sagittarius        | Centaur      | 21 Dec – 20 Jan      | 21 Nov – 20 Dec    | Summer                   |
| Capricorn          | Sea Goat     | 21 Jan – 20 Feb      | 21 Dec – 20 Jan    | Summer/Fall              |
| Aquarius           | Water Bearer | 21 Feb – 20 Mar      | 21 Jan – 20 Feb    | Fall                     |