“Lady, by yonder blessed Moon I vow,” protests Romeo,

to which Juliet replies:

“Oh, swear not by the Moon, the inconstant Moon
That monthly changes in her circled orb,
Lest that thy love prove likewise variable.”

From Shakespeare’s *Romeo and Juliet*
ANNOUNCEMENTS

1. HOMEWORK #3 due TODAY. Extra Credit Homework only this week.

2. Yom Kippur ends at sunset tonight (10-11 Tishri). What is the moon phase?

3. Optional Lunar Eclipse Observing: Sunday night starting at 7pm at SBO (if early assemble in east parking lot to see Moon rise more clearly).

"MOONDANCE"

WAXING

FULL MOON

WANING

NEW MOON

MARKS SAME GEOGRAPHICAL LOCATION ON MOON AT EACH PHASE.

Acetate 6
Figure 2.16

Lunar Phases and Configurations
©1988 West Publishing Company
INDIAN, CHINESE, JAPANESE, NATIVE AMERICAN, MESO-AMERICAN TRADITION HAS ALWAYS BEEN A RABBIT IS IN THE MOON, NOT AN "OLD MAN"…try to see the rabbit!
BRIGHT SIDE VS DARK SIDE

The moon tonight
Feb. 6, 2014
Show lunar phase cycle on the dome

Show seasonal cycle of full moon on dome.

Lunar standstills later if time permits
Gregorian calendar dates of Ramadan:

- In 2010 started on: 11th of August
- In 2011 starts on 1st of August
- In 2012 starts on: 19th of July
- In 2013 starts on: 8th of July

Mohamed moved the Nations of Islam on to a pure Lunar calendar to further remove the Muslim civilization from the barbarism of Europe during the Middle Ages.

Months started at first sighting of crescent Moon in the west after New Moon.

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LUNI-SOLAR CALENDARS

- ADOPTED c. 500 BCE BY THE BABYLONIANS AND GREEKS AND WAS THE STANDARD CALENDAR IN THE EASTERN MEDITERRANEAN UNTIL THE GREGORIAN CALENDAR WAS ADOPTED.

- TRADITIONAL JEWISH CALENDAR IS LUNI-SOLAR. IT HAS 12 LUNAR MONTHS WITH A 13th added in the 3rd, 6th, 8th, 11th, 14th, 17th, and 19th years of a 19 year cycle called the “Year of Meton”.

- High holy days are fixed by the day and month of the Jewish calendar and so change each year in the Gregorian Calendar (see example at right)…but by adding a month every 2—3 years the sacred days always stay close to the same time of the Solar year.

YOM KIPPUR:

ALWAYS 10th OF Tishri (10th day after first crescent Moon)…and always starts at Sunset AND SO differs from a pure Solar calendar each year.

Yom Kippur in the Gregorian Calendar:

2010: Sunset Sept 17th to Nightfall Sept 18th

2011: Sunset Oct 7th to Nightfall Oct 8th

2012: Sunset Sept 25th to Nightfall Sept 26th

2013: Sunset Sept 14th to Nightfall Sept 15th

Etc….ALWAYS stays around same time of year.
QUESTION: In 1973 Egypt & Syria went to war against Israel in what was called “the Yom Kippur or Ramadan war” depending on whose side one was on.

What time of year in the Gregorian Calendar did this war take place? *** HINT: This year Ramadan (the month of fasting) begins on June 28th; while Yom Kippur starts on October 3rd.

A. OCTOBER because Ramadan shifts with respect to the seasons

B. JUNE-JULY because Yom Kippur happens on different (Gregorian) calendar dates.

C. Half-way in between: early September because both sides wanted to claim the war was waged on their religious holiday.

D. None of the above; it was all political hype.
Other Sacred Luni-Solar Calendars

- **Hopi Pueblo Indians** set Soyal, Winter Solstice ceremony by the sun using a horizon calendar, but then do a ritual bean planting on the first full moon following Soyal. Thereafter, they count moons and so set summer ceremonies a set number of moons after Soyal.

- **Zuni Pueblo Indians** also mark Winter Solstice and also count moons to set the timing for their most important Shalako ceremony.

- **Christian Easter** is the first Sunday after the first full moon following the Spring Equinox (a “movable feast”)

Zunis and Hopis are both Pueblo people, city dwellers, living in pueblos in Arizona and New Mexico. Some of their ancestors include the people of Chaco Canyon and surrounds.

Calendar reflects both the ritual nature of most ancient calendars and a concern for both the cycles of the Sun and the Moon in setting ceremonies including Zuni Shalako, Hopi Snake and Home dances, etc.
The **LOY KRATHONG** “Festival of Lights” is celebrated each year in Thailand. In 2015 it will be celebrated on 25 November but is not always on this Gregorian Calendar date but is always on the 15th day of a specific Buddhist Thai month. Using Internet investigation and your knowledge of lunar, luni-solar and pure lunar calendars, determine:

1. What is the moon phase on which Loy Krathong is celebrated?
2. Which of the above three calendar types is the Thai Buddhist calendar?
3. When is the Thai New Year and why is it set then?
GURUN-GAI NATIONAL PARK
NEW SOUTH WALES, AUSTRALIA
(30 KM NORTH OF SYDNEY)

CRESCENT MOON

REVELELERS!
(ANTIQUITY UNKNOWN ??)
ABORIGINAL AUSTRALIAN ROCK ART: THE WORLD’S OLDEST REMAINING ART?
GONDAWAK
“MOON-DREAMING”
TEACHING SITE

- WALKABOUT
- SONGLINES
- DREAMTIME or “The Dreaming”
GONDAWAK = PRESENT-DAY MOON WHICH “REINCARNATES” EVERY MONTH

JABALEI = DREAMTIME SPIRIT WHICH BECOMES THE MOON