FALL 2011 SEMESTER EXAM REVIEW KEY
~ 53-67 ~

53. Describe our Sun's apparent and absolute magnitude.
   - ✓ **It is the highest apparent magnitude star in our sky (it's closest)**
   - ✓ **but of average absolute magnitude**
54. About where are we located in the Milky Way galaxy?
   - ✓ **About 2/3 out from the center in one of the spiral arms**
55. What causes the seasons on Earth?
   - ✓ **The tilt of the axis**
   - ✓ **and the revolution of the Earth**
56. Describe the rotation and revolution direction of the Earth.
   - ✓ **Rotation = counterclockwise**
   - ✓ **Revolution = counterclockwise**
57. Define rotation and revolution.
   - ✓ **Rotation – spinning along an axis**
   - ✓ **Revolution – one object moving around another (around a central point); an orbit**
58. Describe the solstices and equinoxes, including the month in which they happen and the latitude that the Sun is most directly shining on in each.

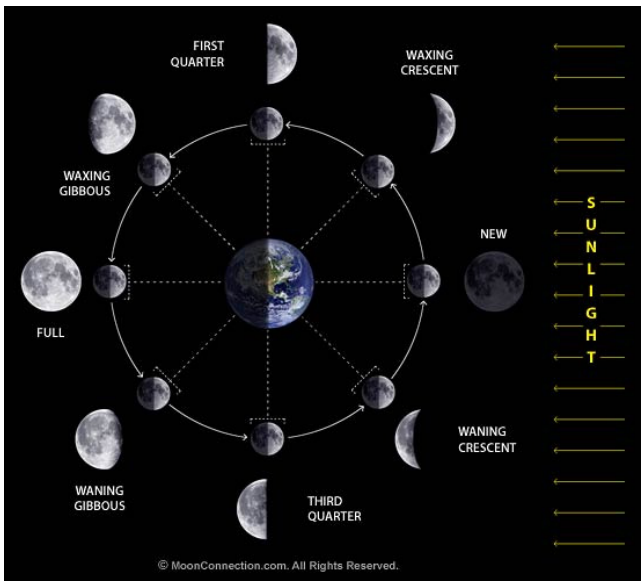
Our Summer Solstice:
- ✓ **Sun is directly shining on the Tropic of Cancer**
- ✓ **June 21/22;**
- ✓ **We receive the most daylight during a 24 hour period**

Our Winter Solstice:
- ✓ **Sun is directly shining on the Tropic of Capricorn;**
- ✓ **December 21/22;**
- ✓ **We receive the least daylight during a 24 hour period**

Our Fall Equinox:
- ✓ **Sun is directly shining on the Equator;**
- ✓ **September 21/22;**
- ✓ **We receive exactly 12 hours of daylight and 12 hours of night**

Our Spring Equinox:
- ✓ **Sun is directly shining on the Equator;**
- ✓ **March 21/22;**
- ✓ **We receive exactly 12 hours of daylight and 12 hours of night**

59. Draw and label the moon phases from both perspectives (from the Earth and from above the Earth looking down at the North pole).



*****25 checks…1 for each of the 8 top-down moons, 1 for each correct phase position/drawing, & 1 for each proper name**

60. Describe the revolution and rotation of the moon.
    - ✓ **Revolution is counterclockwise direction & takes 27.5 days**
    - ✓ **Rotation is counterclockwise direction & takes 27.5 days**
    - ✓ **results in our seeing only one side of the moon's surface during the entire Lunar Cycle**
61. How do the moon phases relate to the tides?
    - ✓ **During the different phases, the moon is pulling at a different angle with respect to the Sun's gravitational pull, resulting in a change in the high and low daily tides as the month progresses**
62. Describe Spring and Neap tides.
    - ✓ **Spring tides: happen twice a month during new and full moon phases; high tides are higher than normal, low tides are lower than normal**
    - ✓ **Neap tides: happen twice a month during 1st and 3rd quarter moon phases; high tides are lower than normal, low tides are higher than normal**
63. How often do high tides occur on Earth? What causes high tides on Earth?
    - ✓ **High tides happen twice every day; the gravitational pull of the Moon & Sun**
64. Draw a diagram showing the position of the Sun, moon and Earth at both Spring and Neap tides. Label each tide with the correct moon phase.
    - ✓ **Similar diagram as question 59 but does not need crescent and gibbous phases,**
    - ✓ **with Spring tide written on the Full**
    - ✓ **and New moon phases**
    - ✓ **Neap tide written on the 1st**
    - ✓ **and 3rd Quarter phases**
65. If the New Moon happens on January 4th, on about what date would you expect the 3rd quarter moon to appear?
    - ✓ **On around January 25/26/27**
66. How much of the moon is always in shadow? What about the Earth? Why?
    - ✓ **½ of the moon;**
    - ✓ **½ of the Earth;**
    - ✓ **one side of each planetary body is always facing away from the Sun**
67. Describe how the movement of the Earth, Sun and moon affect what we see and experience on Earth.
    - ✓ **Rotation: day and night, daily high/low tides, counterclockwise, Sun/moon rising in east, setting in west, seeing only one side of the moon, etc.**
    - ✓ **Revolution: year, seasons, Neap and Spring tides (moon's revolution), etc.**
    - ✓ **Tilt of the Earth: seasons, solstice, equinox, etc.**

Possible 65 checks
X 1.6 per check
Potential grade = 104