Ast 101 – Lab Activity #1
The Metric System and Angular Measurement

Name: __________________________ Date: ________ Campus: __________

I. Metric System

1c. __________________________ 2a. __________________________

d. __________________________ e. __________________________

e. __________________________

4b. __________________________ mm = __________________________ cm

j. Coin: __________________________ cm actual

Key: __________________________ cm actual

II. Angle Measurements

1a. __________________________

b. __________________________

f. __________________________

g. __________________________

k. __________________________

2a. __________________________
The following table of diameters of solar system objects should be converted using the scale found in the lab activity. Be sure to use the values for the sizes as shown on this page and not the values in the lab activity.

<table>
<thead>
<tr>
<th>Name</th>
<th>Actual Approximate Diameter (km)</th>
<th>Scale Diameter (cm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mercury</td>
<td>4900</td>
<td></td>
</tr>
<tr>
<td>Venus</td>
<td>12100</td>
<td></td>
</tr>
<tr>
<td>Earth</td>
<td>12800</td>
<td></td>
</tr>
<tr>
<td>Moon</td>
<td>3500</td>
<td></td>
</tr>
<tr>
<td>Mars</td>
<td>6800</td>
<td></td>
</tr>
<tr>
<td>Jupiter</td>
<td>137000</td>
<td></td>
</tr>
<tr>
<td>Io</td>
<td>3500</td>
<td></td>
</tr>
<tr>
<td>Europa</td>
<td>3100</td>
<td></td>
</tr>
<tr>
<td>Ganymede</td>
<td>5000</td>
<td></td>
</tr>
<tr>
<td>Callisto</td>
<td>4900</td>
<td></td>
</tr>
<tr>
<td>Saturn</td>
<td>115000</td>
<td></td>
</tr>
<tr>
<td>Titan</td>
<td>4800</td>
<td></td>
</tr>
<tr>
<td>Uranus</td>
<td>50100</td>
<td></td>
</tr>
<tr>
<td>Neptune</td>
<td>490000</td>
<td></td>
</tr>
<tr>
<td>Triton</td>
<td>3800</td>
<td></td>
</tr>
<tr>
<td>Pluto</td>
<td>5800</td>
<td></td>
</tr>
<tr>
<td>RA</td>
<td>Dec</td>
<td>Star</td>
</tr>
<tr>
<td>----</td>
<td>-----</td>
<td>------</td>
</tr>
<tr>
<td>1. A</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. B</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2. F a. __________
   b. __________
   c. __________

5. C __________
Ast 101 – Lab Activity #4
Phases of the Moon

Name: __________________________ Date: ________ Campus: __________

1d. 1 __________________________

2. __________________________

3. __________________________

4. __________________________

3a. Aa __________________________ b __________________________

Ba __________________________ c __________________________

Fa __________________________ c __________________________
Ast 101 - Lab Activity #5
Questions from Cosmos - "Harmony of the Worlds"

Name: ___________________________ Date: ____________ Campus: ____________

1. A stellar graveyard was referred to as the?
2. Which planet has a giant, ongoing storm?
3. Who was the last scientific astrologer?
4. Is our planet under the influence of a star? If so which one?
5. Which constellation represents Charles’ Wagon?
6. What day did the niche of the Anasazi Temple become illuminated?
7. How many planets did the ancients know about?
8. Whose system of wheels within wheels was used to model the motion of the planets?
9. Who did Martin Luther call a “fool”, upstart astronomer?
10. Who wanted to read the mind of God?
11. How many regular solids are there?
12. What finally drove Kepler to Tycho Brahe?
13. (True-False) Tycho’s observations where made with a telescope.
14. What shape is the orbit of Mars?
15. Kepler’s second law states that a planet sweeps out equal _________ in equal _________.
16. What makes the planets “go”?
17. What was the name of Kepler’s science fiction story?
18. How many laws of planetary motion did Kepler discover?
Lab 6/7
Refraction/Reflection
AST 101 LB

Name: ___________________________ Date: _____

1. b. ________
   c. ________
   d. ________
   e. ________

3. b. ________
   c. ________

9. a. ________
   b. ________

2. b. ________
   c. ________

3. a. ________

10. c. ________

Refraction
Use the angles given in the lab activity.

Reflection
Select and draw the ray diagram for 3b.

Select and draw the ray diagram for 2b.
Ast 101 – Lab Activity #8
Telescopes

Name: __________________________  Date: __________  Campus: __________

3) a. ____________________________
   b. ____________________________
   c. ____________________________
   d. ____________________________

4) a. ____________________________
   b. ____________________________
   c. ____________________________
   d. ____________________________

Top Strip

5) a. ____________________________  a. ____________________________
   b. ____________________________  b. ____________________________
   c. ____________________________  c. ____________________________
   d. ____________________________  d. ____________________________

Bottom Strip

13.
1. Which planet has a surface which can be seen from earth?
2. Who wrote the "War of the Worlds"?
3. Who or what regarded the Earth with envious eyes?
4. Who dramatized "War of the Worlds" on radio.
5. Who was the wealthy Bostonian who built an observatory on Mars Hill?
6. What did the Italian astronomer, Schiaparelli see on Mars?
7. Wallace showed that the Martian atmosphere was not thick enough to support.
8. The name of Mars according to the author Edgar Rice Burroughs
9. The boy who loved sky rockets.
10. From an old cherry tree in New England the idea of what machine occurred?
11. What was the first planet to be explored by rocket?
12. At what resolution are people seen on Earth?
13. Are there canals on Mars?
14. How fast does the fastest wind blow on Mars?
15. (True/False) Olympus Mons is the largest volcano in the solar system
16. The name of the robots that landed on Mars.
17. Chyrse means .........................
18. The most abundant Martian atmospheric gas.
19. Does Mars have life as we know it?
20. The major atom of Earth's life is .........
21. The Wolf Trap was designed to look for ...........
22. Wolf Vishniac studied life in .................
23. The process to change Mars into an Earth like planet is called
24. Where is the water on Mars?
25. Who are the Martians?
Ast 101 – Lab Activity #10
Planetary Properties

Name: ______________________ Date: _______ Campus: __________

2a. Draw the figure below according to the directions given in 2a of the activity.

5a. ______________________ e. ______________________

c. ______________________ f. ______________________

d. ______________________ g. ______________________

10a. Polar Diameter = ________________ mm

Equatorial diameter = ________________ mm

b.
Ast 101 – Lab Activity #11
Constellations

Name: ____________________________ Date: __________ Campus: __________

Page 3
1c ______________________________

Page 7
3a. _____________________________

b. ______________________________

c. ______________________________

5. _______________________________

7a. ______________________________

Page 8
7d. ______________________________