

SCORE
(5 pts max)

ASTRONOMY 5
THIRD HOUR SESSION "D"

ACTIVITY: Introduction to *Starry Night*
Software

NAME

KEY - D

DATE

ID#

For all questions below, unless stated otherwise, all observations are from Sacramento and the year is assumed to be the current year.

1. According to *Starry Night*, what's the latitude of Sacramento?

38° 39.6' N

2. Find the Sun on September 24 at noon PDT. What times will it rise and set (give answers to the nearest minute)?

6:56 am (±1 min)

6:57 pm (±1 min)

3. For the date given in Question #2, set the time to three hours after the time of the setting Sun. Write the time here: [9:57 pm] Is the Moon in the sky (Yes or No)?

Yes

The following questions are all to be answered for the date given in Question #2 and the time given in Question #3.

4. If the Moon is above the horizon in Question #3, when will it set? If is below the horizon, when will it rise?

7:18 am (the next day)

5. What are the right ascension and declination of Vega?

18^h 37.563^m
(± .050^m)

38° 48.179'
(± .050')

6. For the same date and time, what are the altitude and azimuth of the object in question #5? Round both your answers to the nearest degree.

61°

282°

7. For the celestial object in Question #5, what is its magnitude?

0.00

8. Find the planet Venus. What constellation is it in? What percentage of its illuminated side do we see from Earth?

Virgo

22.41% (or 22%)

(Questions continue on back)

9. Find the Messier object that is closest in the sky to the planet given in Question #8. What type of object is it and how far away is it (in light-years)?
Zoom to about 70° field of view – get rid of horizon

Galaxy (M83)	8000000 ly
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10. Find Shaula. What constellation is it in and what is its magnitude?

Scorpius	About 1.59
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The following questions are not dependent on any of the previous date and time requirements.

11. Find Messier object M31. What is the name of the object?

Andromeda Galaxy

12. Using the “Angular Separation” tool, determine the angular separation between M31 and M33. Give the answer to the nearest degree.

15° (± 1°)

13. With help from the “Angular Separation” tool, determine how many stars on the 21 Stars to Know list lie within 40 degrees of the object in Question 5.

2 (excluding object in Question 5)
