

SCORE  
(5 pts max)

ASTRONOMY 5  
THIRD HOUR SESSION "K"  
ACTIVITY: Astronomy Apps

NAME KEY - K

DATE

ID#

Open the app Star Chart

1. Facing west, find a constellation that contains a very bright, named star near and above the horizon. Give the name of the constellation, and the star.

Instructor Check

Instructor Check

2. What is the azimuth of the star from question #1? (ROUND to the nearest degree).

Approximately 270 deg

3. Of the three stars Rigel, Spica, and Canopus—determine which is most easily visible from Rocklin on Friday of this week at 10pm.

Fall: Rigel, Spring: Spica

4. What is the Right Ascension and Declination of the star from question #3? (ROUND RA to the nearest minute, and Dec to the nearest degree).

Fall: 5h 15m

Fall: -8 deg

Spring: 13h 25m

Spring: -11 deg

5. Returning to the current time, find a constellation closest to the zenith that contains a bright, named star. Give the name of the star, and its altitude. (ROUND alt to the nearest degree)

Instructor Check

Approx 90 deg

6. Face north and find the constellation Ursa Major. What is the brightest star in this constellation?

Alioth

7. What is the apparent magnitude of the star in question #6?

+1.76

8. Set the date to noon of Friday this week. What time will the sun Rise?

6:51 am

9. Keeping the date set to Friday of this week, set the app to the time you determined in Question #8. Which of the eight planets is visible in the sky?

Venus

(Questions continue on back)

Answer the remaining questions using the app Sky Safari. The time should be set to current time and date.

10. Find the object **\_M15\_**. What constellation is it in? What is its apparent size? What is its distance in light years?

Pegasus	2'	34000 LY
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11. Find the object **\_M101\_**. What are its apparent dimensions (size) in arcmin? What is its distance in light years?

28.8'x26.9'	22,000,000 LY
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12. How many times further away from us is the galaxy in Question 11, compared to the cluster in Question 10?

647 x
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13. Change the date to **\_December 5\_** and set the time to **\_21:00\_**. What constellation is at the zenith?

Andromeda and Triangulum
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14. For the same time and date in #13, what **1<sup>st</sup>** magnitude star (**+1.5** or brighter) has just **\_\_\_Risen between the East and Southeast\_\_\_** ?

Sirius
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15. What is the apparent (visual) magnitude of the star from Question #14? What is its complete spectral type (include Spectral class, sub-class, and luminosity class).

-1.44 (and +8.50)	A1V
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16. What element is the star in Question #14 burning, via nuclear fusion, in its core?

Hydrogen
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Fill in options

6: Ursa major/Ursa minor: answers = Polaris or Alioth

That results in Q#7 having answers +2 (and 9.1) or 1.76

8: Rise/Set

10: M38/M15

Answers: Auriga/Pegasus 20'/2' 4600 LY/34000 LY

11: M33/M101

Answers: 68.7'x41.6'/28.8'x26.9'

2,800,000 LY/22,000,000 LY

14. Rise/Set nearly due East/West