

Questions 1 - 5 refer to Star Map 1:

1. Which letter is next to the star **Antares**? (a,b,c,d,e)
2. What constellation is **Antares** part of? (name of the constellation)
3. What is the name of **Star b**? (name of the star)
4. Which letter is in the constellation **Lyra**? (a,b,c,d,e)
5. What constellation contains the **Letter e**? (name of the constellation)

Questions 6 - 11 refer to Star Map 2:

6. What is the name of **Star h**? (name of the star)
7. What constellation is **Regulus** part of? (name of the constellation)
8. What is the name of **Star i**? (name of the star)
9. Which letter is next to the Star **Betelgeuse**? (f,g,h,i,j,k)
10. Which letter is in the constellation **Canis Minor**? (f,g,h,i,j,k)
11. Which letter is next to the hottest star labeled on the map? (f,g,h,i,j,k)

Questions 12 - 13 refer to Star Map 3:

12. What is the name of **Star l**? (name of the star)
13. What constellation contains the **Letter m**? (name of the constellation)

Questions 14 - 16 refer to Star Map 4:

14. Which letter is next to the Star **Spica**? (n,o,p)
15. What constellation contains the Star **Spica**? (name of the constellation)
16. What is the name of the **Star n**? (name of the star)

Questions 17 refer to Star Map 5:

17. What is the name of **Star q**? (name of the star)

Questions 18 - 23 refer to Star Map 6:

18. Which letter is in the constellation **Centaurus**? (r,s,t,u,v,w)
19. Which letter is in the constellation **Libra**? (r,s,t,u,v,w)
20. What constellation contains the **Letter u**? (name of the constellation)
21. What constellation contains the **Letter w**? (name of the constellation)
22. What letter is in the constellation containing **NGC 7293**? (r,s,t,u,v,w)
23. What letter is in the constellation **Vela**? (r,s,t,u,v,w)

Questions 24 - 32 refer to Star Map 7:

24. What letter is next to the deep sky object **M1**? (x,y,z,aa,bb,cc,dd,ee,ff)
25. What is the name of deep sky **Object bb**? (name of the object)
26. What type of deep sky object is **Object cc**? (type of deep sky object)
27. What Letter is next to the deep sky object **CAS A**? (x,y,z,aa,bb,cc,dd,ee,ff)
28. What type of deep sky object is **CAS A**? (type of deep sky object)
29. What is the name of deep sky **Object ff**? (name of the object)
30. What constellation contains deep sky **Object y**? (name of the constellation)
31. Which letter is next to the most distant labeled object? (x,y,z,aa,bb,cc,dd,ee,ff)
32. What constellation contains the deep sky object **M17**? (name of the constellation)

Questions 33 refer to Star Map 8:

33. Which line is the border between the constellations **Orion** and **Taurus**? (gg,hh,ii,jj,kk)

Questions 34 refer to **Star Map 9**:

34. Which line is a border of the constellation **Hercules**? (ll,mm,nn,oo,pp)

Questions 35 refer to **Star Map 10**:

35. Which line is a border of the constellation **Carina**? (qq,rr,ss,tt,uu)

Questions 36 - 40 refer to **Image i** in **Image Set A**:

36. Which letter on **Image i** is where the star **Procyon** would be plotted? (vv,ww,xx,yy,zz)

37. What is the spectral class of the star **Procyon**? (spectral class)

38. Which letter on **Image i** is where the star **Castor** would be plotted? (vv,ww,xx,yy,zz)

39. Which letter on **Image i** is where the star **Spica** would be plotted? (vv,ww,xx,yy,zz)

40. Which letter on **Image i** is where a main-sequence star with half the surface temperature of the **Sun** would be plotted? (vv,ww,xx,yy,zz)

Questions 41 – 45 refer to **Image ii** through **Image iv** in **Image Set A**:

41. Which of the images plots the H-R diagram for **M13**? (ii,iii,iv)

42. Which of the images plots the H-R diagram for the **Hyades** cluster? (ii,iii,iv)

43. Is the plot in **Image ii** for a Globular or Open cluster? (globular, open)

44. Which image is for the youngest cluster of the three? (ii,iii,iv)

45. Which image shows “Blue Stragglers” in the plot? (ii,iii,iv)

Questions 46 – 50 refer to **Image v** through **Image x** in **Image Set B**:

46. Which image shows the spectrum for a Star like **Rigel**? (v,vi,vii,viii,ix,x)

47. What is the spectral class of the star **Rigel**? (spectral class)

48. Which image shows the spectrum for a star like **Antares**? (v,vi,vii,viii,ix,x)

49. Which image shows the spectrum for a **G0 Star**? (v,vi,vii,viii,ix,x)

50. Which image shows the spectral is for the coolest class of Star? (v,vi,vii,viii,ix,x)

Questions 51 – 55 refer to **Image xi** through **Image xv** in **Image Set B**:

51. Which image shows the formation of a solar mass main sequence star? (xi,xii,xiii,xiv,xv)

52. Which image shows the future evolution of a star like **Castor**? (xi,xii,xiii,xiv,xv)

53. Which images show the process that creates an object like **M57**? (xi,xii,xiii,xiv,xv)

54. What type of object is formed at the end of the path in **Image xv**? (type of object)

55. What type of object is formed at the end of the path in **Image xi** (type of object)

Questions 56 – 60 refer to **Image xvi** through **Image xviii** in **Image Set C**:

56. What is the name of object shown in **Image xvi** through **Image xviii**? (name of object)

57. Which image shows this object in optical wavelengths? (xvi,xvii,xviii)

58. In addition to optical, what wavelengths are shown in **Image xviii**? (radio, IR,UV, X-ray, gamma)

59. What is the source of the bright features in the middle of **Image xvi**? (type of object)

60. Why are those features particularly visible in this image? (short answer)

Questions 60 – 65 refer to **Image xix** through **Image xii** in **Image Set C**:

61. What is the name of object shown **Image xix** through **Image xxi**? (name of object)

62. Which image shows this object in Radio wavelengths? (xix,xx,xxi)

63. Which image shows this object in Visible wavelengths? (xix,xx,xxi)

64. What is surprising about the length of the jets in **Image xix**? (short answer)

65. What does that mean about the processes forming those jets? (short answer)

Questions 66 – 70 refer to **Image xxii** through **Image xxiv** in **Image Set C**:

66. What is the name of object shown **Image xxii** through **Image xxiv**? (name of object)
67. Which image shows this Object in X-Ray wavelengths? (xxii,xxiii,xxiv)
68. What wavelengths are shown in **Image xxii**? (radio, IR, optical ,UV , X-ray, gamma)
69. What is the source of the jets in the middle of **Image xxiv**? (short answer)
70. Why are those jets only visible in this image? (short answer)

Questions 71 - 75 refer to **Image xxv** through **Image xxvii** in **Image Set C**:

71. What is the name of object shown **Image xxv** through **Image xxvii**? (name of object)
72. Which image shows this object in gamma wavelengths? (xxv,xxvi,xxvii)
73. What wavelengths are shown in **Image xxv**? (radio, IR, optical ,UV , X-ray, gamma)
74. What does **Image xxvi** show about the composition of this object? (short answer)
75. Is this object closer or more distant than objects typically imaged at the wavelengths shown in **Image xxvii**? (short answer)

Questions 76 - 90 refer to **Image xxviii** through **Image xxxx** in **Image Set D**:

76. Which image shows **CoRoT-2A**? (xxviii through xxxx)
77. What wavelengths are shown in **Image xxxix**? (radio, IR, optical , UV, X-ray, gamma)
78. What type of object is shown in **Image xxxiv**? (type of object)
79. Which image shows **Geminga**? (xxviii through xxxx)
80. What is the name of the object in **Image xxviii**? (name)
81. What wavelengths are shown in **Image xxviii**? (radio, IR, optical, UV, X-ray, gamma)
82. Which image shows **Sgr A**? (xxviii through xxxx)
83. Which image shows a **Super Nova Remnant** in **X-ray** Wavelengths? (xxviii through xxxx)
84. What constellation contains the object in **Image xxxvii**? (name of constellation)
85. What type of object is shown in **Image xxxvi**? (type of object)
86. Which image shows **M1** in **X-ray** wavelengths? (xxviii through xxxx)
87. What wavelengths are shown in **Image xxxvii** (radio, IR, optical, UV, X-ray, gamma)
88. Which image shows a **Star Forming Region** in **Infrared** Wavelengths? (xxviii through xxxx)
89. Which image shows **Eta Carinae** in **Infrared** wavelengths? (xxviii through xxxx)
90. What type of Object is shown in **Image xxxx**? (type of object)

Questions 91 - 95 do not refer to any Images:

91. If Star 1 has a greater luminosity than Star 2, is it brighter or dimmer? (brighter, dimmer)
92. If Star 3 has a greater magnitude than Star 4, is it brighter or dimmer? (brighter, dimmer)
93. If Star 5 has the same temperature and twice the radius of Star 6, is it brighter or dimmer? (brighter, dimmer)
94. If Star 7 has the same radius and twice the temperature of Star 8, is it brighter or dimmer? (brighter, dimmer)
95. How many times more luminous is Star 7 than Star 8? (how many times)

Questions 96 - 100 do not refer to any Images:

96. How is a type 1 supernova formed? (short answer)
97. What is the future stellar evolution of **Spica**? (short answer)
98. What is the future stellar evolution of **Gliese 581**? (short answer)
99. What types of objects are X-rays best at observing? (short answer)
100. What types of objects are Infrared wavelengths best at observing? (short answer)