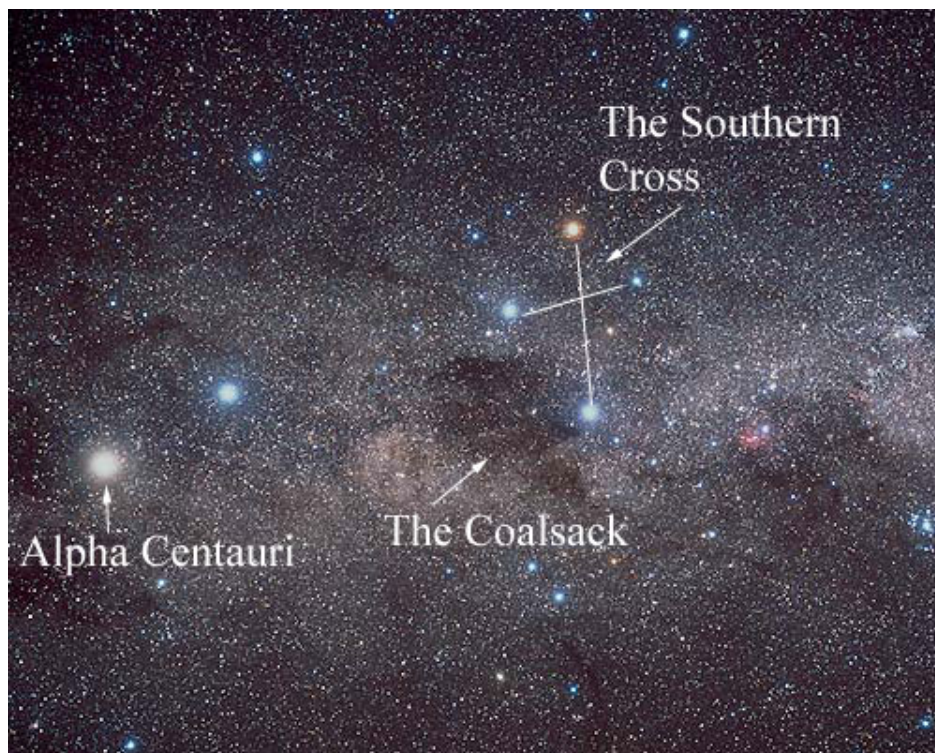


**AST 250 – Spring 2019**  
**Homework Due: Monday Feb. 4**

12. (a) If you were standing on a planet in the Alpha Centuari system ( $D = 1.34$  pc at  $\alpha, \delta = 14^h 40^m, -60^\circ 50'$ ), what apparent visual magnitude would the Sun appear in the sky (quote your answer to 1 decimal place). Note that the absolute visual magnitude of the Sun is  $M_V = +4.83$  mag.

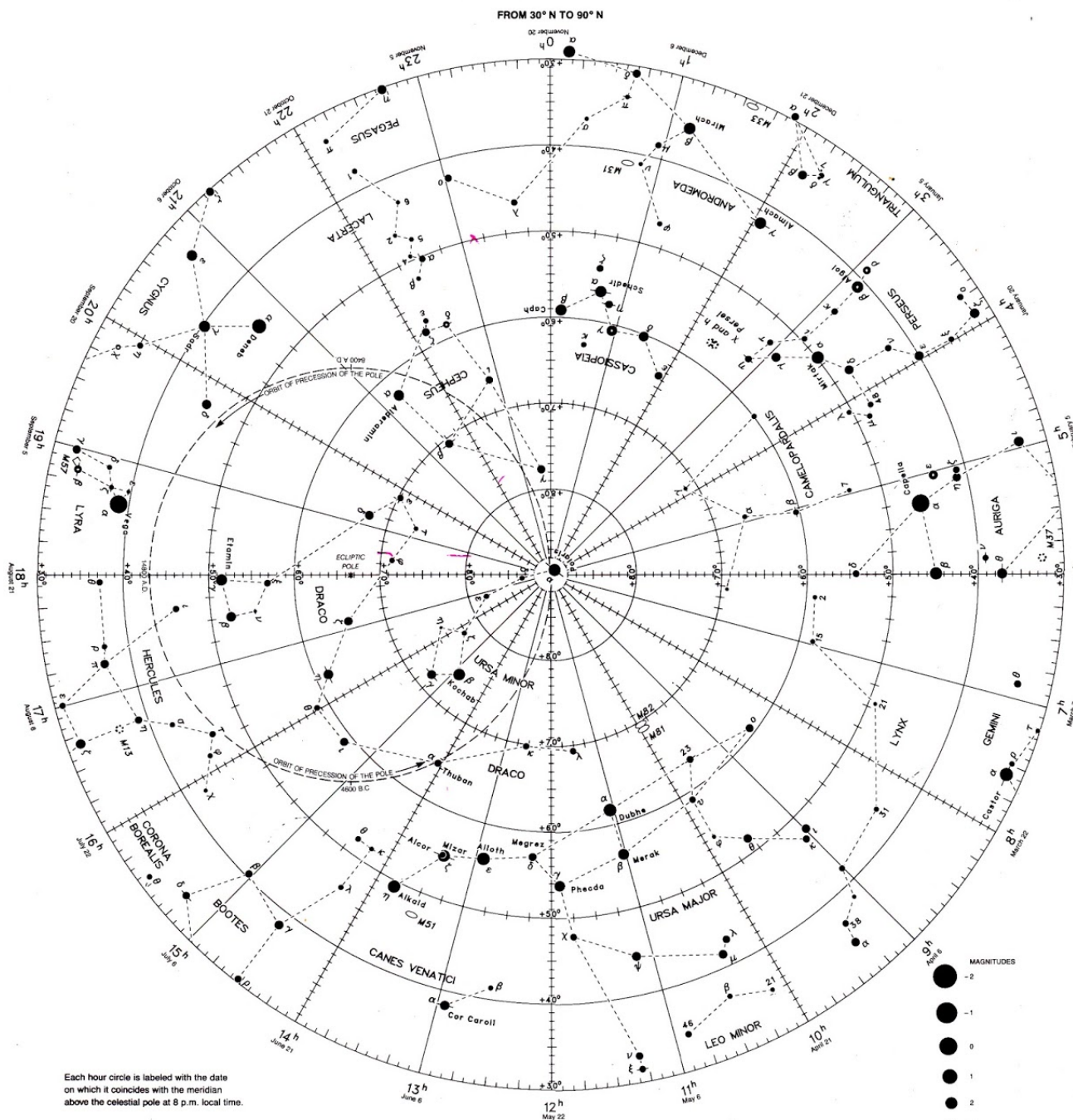
(b) Toward which constellation(s) would the Sun appear in the Alpha Centauri sky (mark the position on the star chart on the back)?

(c) Alpha Centuari appears as a single star in our sky, but it is really comprised of two stars (named A and B with apparent magnitudes of  $m_V = +0.01$  mag for A and  $m_V = +1.33$  mag for B) that orbit each other over a period of 80 years. From our vantage point in the Solar System, these two stars appear as a single bright star to the eye. What is the apparent visual magnitude of the combined A+B (quote your answer to 2 decimal places)? (HINT: Since magnitudes are logarithmically related to flux, you **cannot** simply add two magnitudes together to find the apparent magnitude of an unresolved binary star.)



# SC002 CONSTELLATION CHART

NORTH CIRCUMPOLAR REGION — EPOCH 2000



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