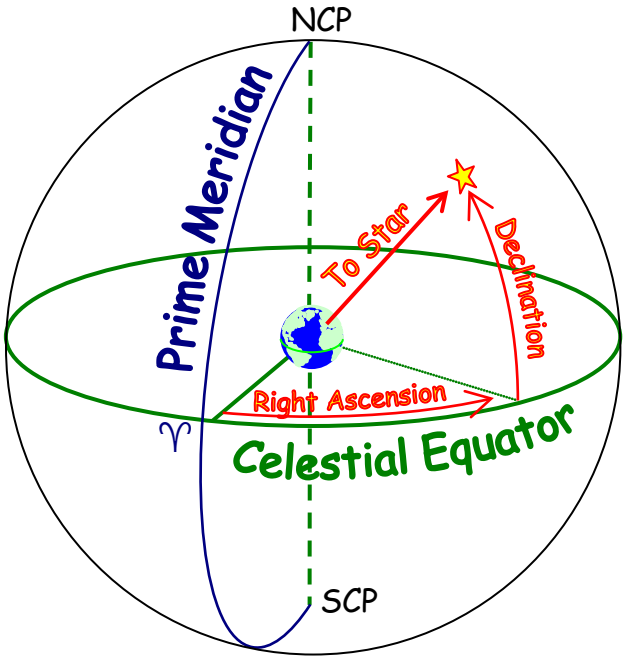
# Celestial Coordinates

## I. Right Ascension and Declination

A way to locate a point on the sky is to use its right ascension and declination:




**DECLINATION (Dec or d):** Measures the angle north or south of the celestial equator ± 0º to 90º
Celestial Latitude ... parallels of declination
**DEGREES, ARCMINUTES, ARCSECONDS: 0º 0' 0" to 90º 0' 0"**

**RIGHT ASCENSION (RA or a):** Measures the angle east of the prime meridian from 0h to 24h
Celestial Longitude ... great circles of right ascension
**HOURS, MINUTES, SECONDS: $0^h\ 0^m\ 0^s$ to $23^h\ 59^m\ 59^s$**

On your celestial globe

- ★identify the **celestial equator** and find the **hours of right ascension** markings
- ★identify the **prime meridian** and find the **degrees of declination** markings

Using the RA and Dec markings, identify the stars located at the following coordinates. Use the *Peterson Field Guide* to confirm these and find the Bayer designation.

| RA | Dec | Star Name | Constellation | Bayer Designation |
|---|---|---|---|---|
| $6^h\ 45^m$ | $-16^o\ 43'$ | Sirius | Canis Major | β CMa |
| $18^h\ 37^m$ | $+38^o\ 47'$ | | | |
| $5^h\ 15^m$ | $-8^o\ 12'$ | | | |
| $7^h\ 39^m$ | $+5^o\ 14'$ | | | |
| $6^h\ 24^m$ | $-52^o\ 41'$ | | | |

Phys 102 Astronomy

Name _____

On these charts from the Field Guide, use colored pencils to **highlight and label** the

- lines of $0^h$, $6^h$, $12^h$ and $18^h$
- circles of 0°, +20°, +50°, -20°, and -50°.

Also **highlight and label** the stars listed on the flip side of this sheet.

In what constellation is the point $21^h$, +20°?

(Use your field guide to read the numbers since these are very small!)