## 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 ± 0° to 90°
- Celestial Latitude... parallels of declination
  - DEGREES, ARCMINUTES, ARCSECONDS: 0° 0' 0" to 90° 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: 0h 0m 0s to 23h 59m 59s

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 Appendix 2 in the Peterson Field Guide to confirm these and find the Bayer designation.

<table>
<thead>
<tr>
<th>RA</th>
<th>Dec</th>
<th>STAR NAME</th>
<th>CONSTELLATION</th>
<th>Bayer Designation</th>
</tr>
</thead>
<tbody>
<tr>
<td>6h 45m</td>
<td>-16° 43'</td>
<td>Sirius</td>
<td>Canis Major</td>
<td>β CMa</td>
</tr>
<tr>
<td>18h 37m</td>
<td>+38° 47'</td>
<td>Vega</td>
<td>Lyra</td>
<td>α Lyr</td>
</tr>
<tr>
<td>5h 15m</td>
<td>-8° 12'</td>
<td>Rigel</td>
<td>Orion</td>
<td>β Ori</td>
</tr>
<tr>
<td>7h 39m</td>
<td>+5° 14'</td>
<td>Procyon</td>
<td>Canis Minor</td>
<td>α CMi</td>
</tr>
<tr>
<td>6h 24m</td>
<td>-52° 41'</td>
<td>Canopus</td>
<td>Carina</td>
<td>α Car</td>
</tr>
</tbody>
</table>

Look up in Appendix 2 (in order of RA)
On BOTH charts from the Field Guide, use colored pencils to highlight and label the
• lines of 0\(^{\text{h}}\), 6\(^{\text{h}}\), 12\(^{\text{h}}\) and 18\(^{\text{h}}\)
• 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\(^{\text{h}}\), +20°? (Use the Atlas Chart!!)

Velpecula

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