ASTR 205: Stellar Astronomy
Class Assignment 1: Jan 12 2019
Questions about the Celestial Sphere

1. (a) Where do you have to be located on Earth to see the Sun overhead at some time during the year? From such a location how many times during the year will the Sun be overhead?
(b) What is the Right Ascension and Declination of the Sun today?
(c) What is the maximum altitude of the Sun as seen from Vancouver on the summer solstice?

2. You have been given the Canada France Hawaii Telescope to do whatever you want with for a few hours in January.
(a) What range of Right Ascension should you plan on observing?
(b) What are the restrictions on Declination?

3. Spica is the brightest star in the constellation Virgo and overall the 16^{th} brightest star in the sky. It is also a binary star. The coordinates of Spica are: $\alpha = 13^h\ 25^m\ 11.6^s$ and $\delta = -11°\ 09'\ 41''$.
Use the definition of declination to determine over what range of latitudes it is above the horizon for at least part of the day or night. Is it ever visible from Vancouver?

4. On the longest day of the year (~ June 21) in what direction does the Sun set in Vancouver?