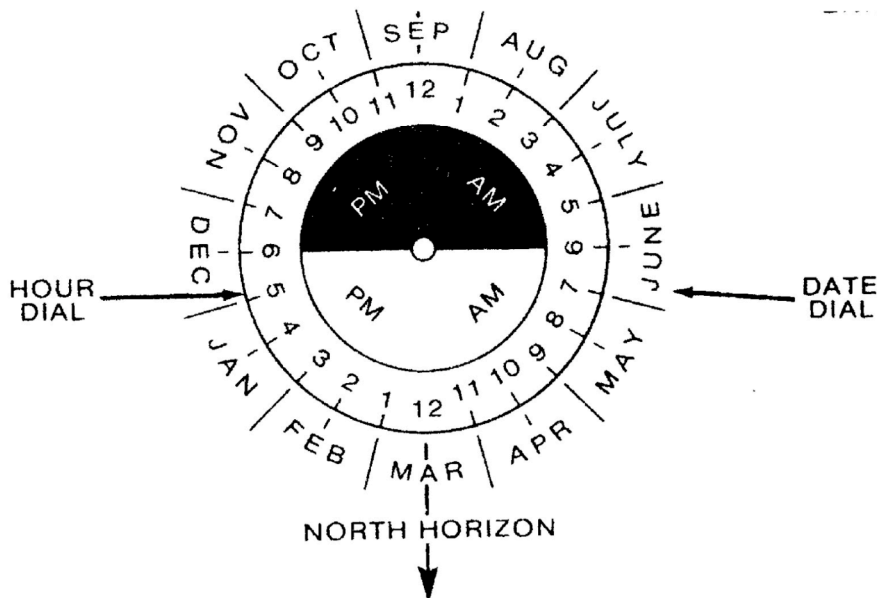


Star Location Practice

Determine the declination and right ascension of the following stars.

The locations of stars are described by the terms declination and right ascension. They work like latitude and longitude for the surface of the earth (The location doesn't change like it would if we used azimuth and altitude.). The declination is measured in degrees, minutes and seconds. The right ascension is measured in hours, minutes and seconds. Locate these stars on the celestial globe in the same manner that you located the cities on the surface of the earth. Write the name of the constellation (or the nearest one) where the star is found.

Object	Declination	Right Ascension	Constellation
Agena			
Aldebaran			
Altair			
Arcturus			
Betelgeuse			
Canopus			
Capella			
Castor			
Deneb			
Dorado			
Pictor			
Pleiades			
Polaris			
Pollux			
Procyon			
Regulus			
Rigel			
Rigil Kentaurus			
Sirius			
Spica			
Vega			



Above is a diagram of the dial on the top of the celestial sphere. To help you locate stars for any time of the year from any location on the earth, turn the date dial so that the time and the day match up across from each other. Notice that on the hour dial there is a small arrow next to 12 midnight. Turn the earth so that the arrow points to your location on the earth and then set the globe in its base so that the same arrow points straight up and the axis rod points to Polaris. Turn the sun dial to the correct date on the ecliptic. You now have the stars in the correct orientation for location. To determine the altitude, notice that straight up (your zenith, even with 12 midnight) is an altitude of 90° . Your horizon is at 0° (or “6 hours” from your zenith).

Set your sphere for the listed location, date and time. Determine the azimuth and altitude of the indicated stars (remember the altitude is negative if the star is below the horizon). Note that $360^\circ = 24$ hours so $15^\circ = 1$ hour.

Location, Star & Date	Azimuth	Altitude
Minneapolis, Rigel, 2/5, 12 midnight		
Miami, Rigel, 2/5, 12 midnight		
Minneapolis, Rigel, 2/5, 6 am		
Miami, Rigel, 2/5, 6 am		
London, Deneb, 3/10, 10 pm		
Paris, Deneb, 3/10, 10 pm		
London, Deneb, 8/15, 10 pm		
Paris, Deneb, 8/15, 10 pm		
Minneapolis, Altair, 6/20, 9 pm		
Mexico City, Altair, 6/20, 9 pm		
Minneapolis, Capella, 4/25, 10 pm		
Mexico City, Capella, 4/25, 10 pm		