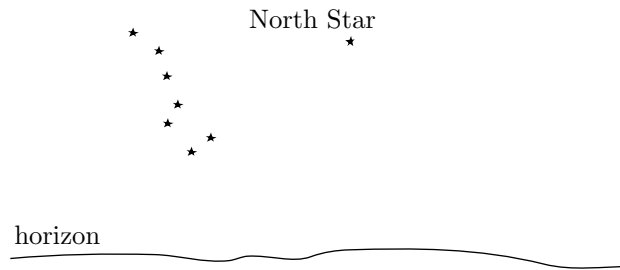


### Exercise 1

Due Friday, August 26, 5:00 pm

1. Shown below is a rough sketch of the North Star and the Big Dipper as they will appear at 9:00 tonight (from Utah). On the same diagram, using a ruler and protractor to be as accurate as you can, draw these stars as they would appear six hours later, at 3:00 a.m.



2. Explain clearly how the sketch in the previous problem would be different, if the same stars were viewed, at the same time, from Mexico (latitude  $20^\circ$ ). What if they were viewed from northern Canada (latitude  $60^\circ$ )?

3. The illustration below shows a few stars near the western horizon, as viewed from Utah. Draw arrows to show the directions that these stars will appear to move during the next half hour.

