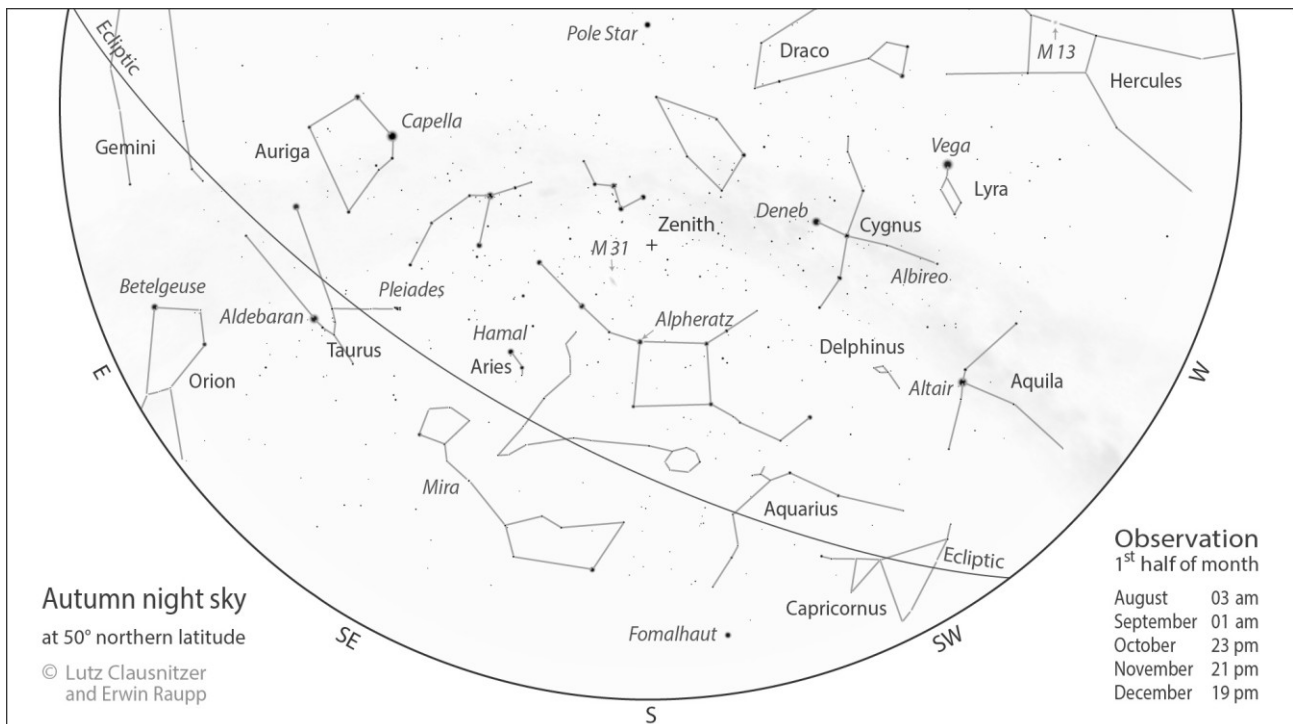


# Problems to App “Audio Sky Tours”, Episode 4

## The Autumn Constellations



1. Draw into the chart with a pencil: the Summer Triangle now standing more to the West and the Autumn Square as well.
2. Name all constellations in the chart being characters of the Andromeda legend at the same time.
3. Mira changes its brightness periodically. How does it realize this?
4. How is the name of the zodiac constellation not designated in the chart?
5. Which constellations of the autumn evening sky the Milky Way is crossing?
6. Why don't we see as many stars all in the sky as along the Milky Way?
7. Our home galaxy, the Milky Way, consists of about 200 billion stars. Using this number as a mean value of the around 200 billion galaxies in the universe we can compute the number of stars in the entire universe. Do this calculation.
8. The Sun is running around Milky Way's centre approximately at the half of its radius. The Milky Way's diameter is about 100 000 light years. How many light years a space ship would have to travel from here to the outer border of our galaxy?
9. How long would this flight last if the space ship travelled with a constant speed of 30 km/s?
10. **Choice problems:** a) What do you know about M31?  
or b) What do you know about the Hubble eXtreme Deep Field of 2012?