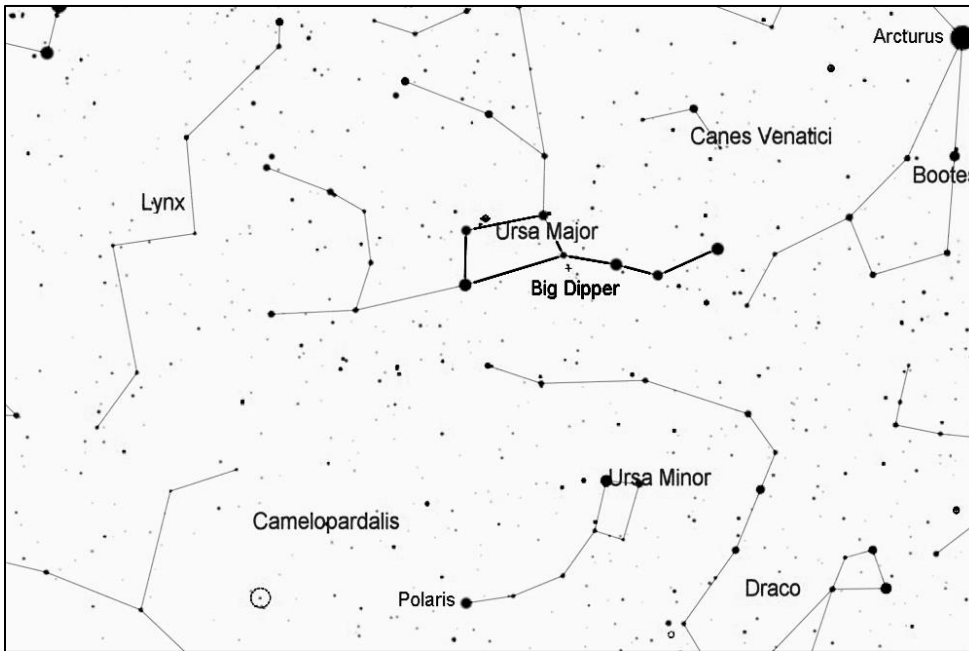


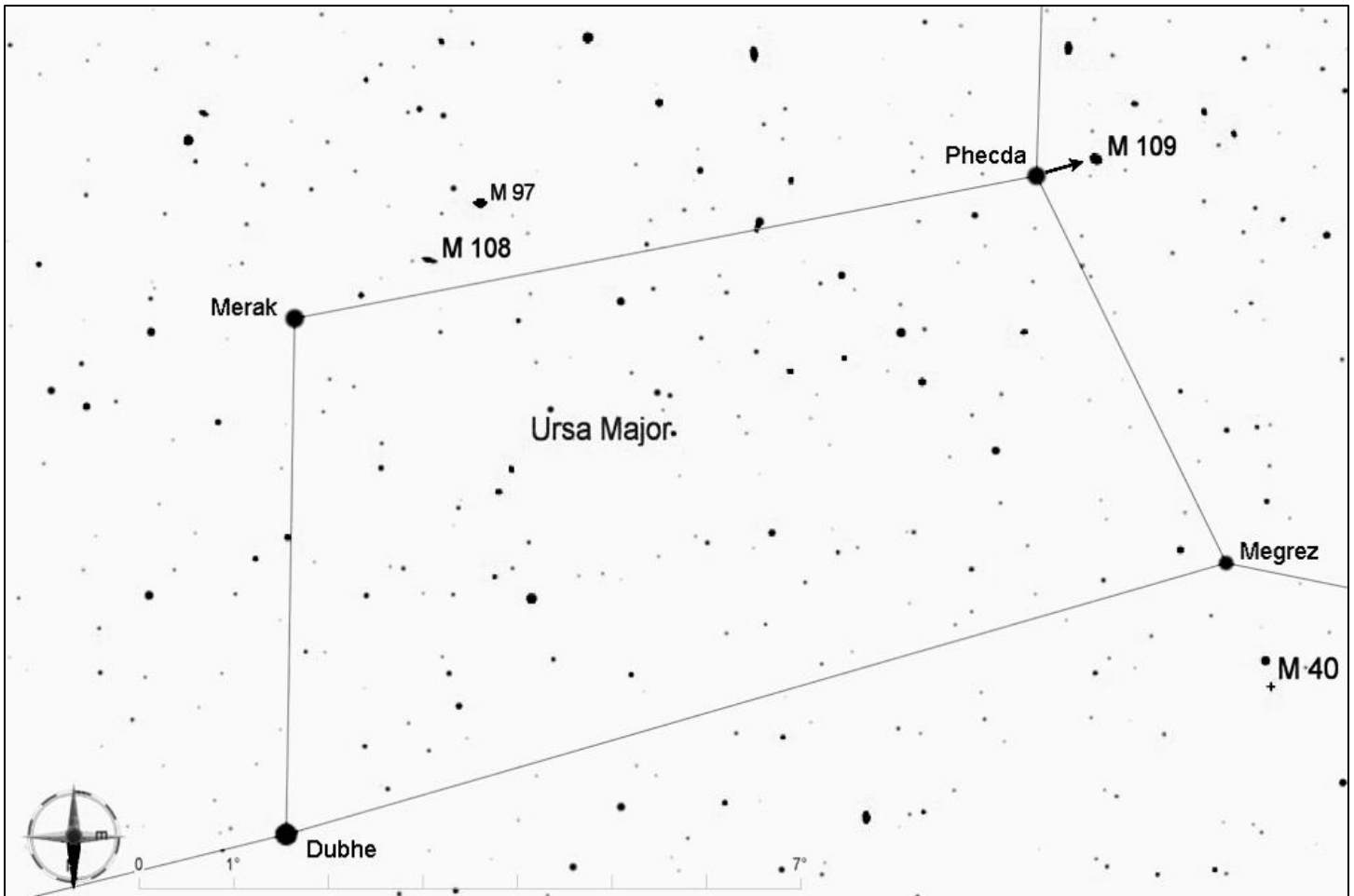
## Messier 109, Galaxy in Ursa Major

Messier 109 is a barred spiral galaxy, and its bright central bar is what is most easily seen through a telescope. This is surrounded by the fainter light of its spiral arms. Although it is quite bright for a galaxy (about magnitude 9.7), M109 is a distant 82 million light years away.



Start by finding the Big Dipper, one of the most recognizable star patterns in the sky. It is part of the constellation Ursa Major, the big bear. It is shown here upside down, high in the sky above Polaris, which is where it can be found during the evenings in spring and summer. For other seasons and times of night, rotate the chart as needed to match what you see in the northern sky.

Note that north is to the bottom in this chart. Start by centering the bright star Phecda, at the bottom of the Big Dipper's bowl, in the telescope with a low-power eyepiece. Then move the scope just  $2/3$  degrees to the east-southeast (just outside the bowl). You should see the oblong shape of M109.



Star hop from [www.skylodge.net](http://www.skylodge.net) by Jim Mazur. Star charts created with *Cartes du Ciel*.