Colette Larson HW7 Answers

2.How do the plots compare?

The plots are accurate till about 2 GYR, at which point the data becomes wildly different

3. What missing physics could make the difference?

Dynamic friction, interactions between individual particles (code assumes galaxies act as point masses), centrifugal force, conservation of angular momentum

4. The MW is missing in these calculations. How might you include its effects?

MW is a massive body with its own gravitational effects on acceleration. To add it in Is effects, I would add in a third object acceleration using the previous defined function for acceleration but using the radius and velocity vectors between it and M33 and M31. this would be used to find how MW affects the change in position/velocity using leapfrog, then integrate.