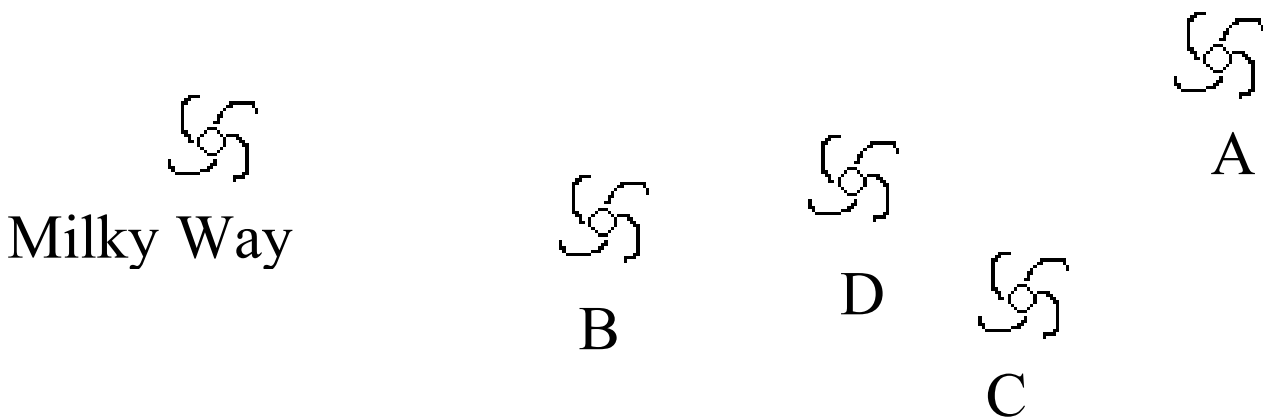


Astronomy Ranking Task:

The Expansion of the Universe

Exercise #1

Description: Consider the diagram below, which displays the Milky Way galaxy, and four other distant spiral galaxies, labeled (A-D):



The drawing is not to scale, and assume each galaxy was originally formed at the same time.

A. Ranking Instructions: Rank the distance (from greatest to least) of the galaxies from the Milky Way.

Ranking Order: Greatest 1 ___ 2 ___ 3 ___ 4 ___ Least

Or, all the galaxies have the same distance. ___ (indicate with a check mark)

Carefully explain your reasoning for ranking this way:

B. Ranking Instructions: Rank the redshift (from greatest to least) of each galaxy.

Ranking Order: Greatest 1 ___ 2 ___ 3 ___ 4 ___ Least

Or, all the redshift of each galaxy cannot be determined. ___ (indicate with a check mark)

Carefully explain your reasoning for ranking this way:

C. Ranking Instructions: Rank the *apparent* age (from oldest to youngest) of each galaxy, as observed from the Earth.

Ranking Order: Oldest 1 ___ 2 ___ 3 ___ 4 ___ Youngest

Or, the apparent age of the galaxy cannot be determined from this information: ___ (indicate with a check mark)

Carefully explain your reasoning for ranking this way:
