Exercise G2: Galaxy Classification

Student name: _____ Class: _____ Date: _____

Check the box with the correct answer.

Question 1: Which particular feature of a spiral galaxy is evident, even from this interior view of the Milky Way?

- ☐ **a.** A central super massive black hole.
- ☐ **b.** Glowing supernova remnants.
- ☐ **c.** A central bulge and dust lanes.
- ☐ **d.** Active star formation regions in the spiral arms.

Question 2: What features do these visibly different spiral galaxies have in common?

- ☐ **a.** They both appear to have a spherical shape.
- ☐ **b.** They both have a bright central core surrounded by a disk of spiral arms.
- ☐ **c.** They both show an abundance of hot blue stars in their disks.
- ☐ **d.** They are made up of a myriad of cool red stars.

Question 3: How does this elliptical galaxy differ in appearance from a spiral galaxy?

- ☐ **a.** It has a bright central core.
- ☐ **b.** It has an indistinct outer boundary.
- ☐ **c.** It has a central bulge and dust lanes.
- ☐ **d.** There are no visible spiral arms.

Question 4: What is the most striking visual feature of this lenticular galaxy?

- ☐ **a.** It looks like the central bulge of a spiral galaxy but it has no spiral arms.
- ☐ **b.** It has many tightly-wound spiral arms but no central bulge.
- ☐ **c.** It has large and obvious dust lanes.
- ☐ **d.** It has a very bright central core surrounded by a uniform distribution of stars.

Question 5: How would you describe the shape of the Large Magellanic Cloud?

- ☐ **a.** Elliptical
- ☐ **b.** Lenticular
- ☐ **c.** Spiral
- ☐ **d.** Irregular

Question 6: What type is the galaxy centered on the Main Window? (Use the diagram for Hubble's galaxy classification scheme to help you in answering this question.)

- ☐ **a.** E5
- ☐ **b.** SBa
- ☐ **c.** S0
- ☐ **d.** Sa

Question 7: Which statement best describes the geometry of the solar system's location within the Milky Way galaxy?

- ☐ **a.** The plane of the solar system is coincident with the plane of the galaxy.
- ☐ **b.** The plane of the solar system is perpendicular to that of the Milky Way.
- ☐ **c.** The plane of the solar system is inclined at a small angle to the plane of the galaxy.
- ☐ **d.** The angle between the plane of the solar system and the galactic plane is large but less than a right angle.

Question 8: The current Main Window view shows a gamma ray view of our galaxy. Locate our galaxy's "hot spot" in order to determine the location of the supermassive black hole at the center of the Milky Way. In which constellation is the galactic core of the Milky Way located?

- ☐ **a.** Ara
- ☐ **b.** Norma
- ☐ **c.** Sagittarius
- ☐ **d.** Corona Australis