

Name _____

Review 3: Due on the day of the Final for extra credit.

Multiple Choice

- 1) As the sun orbits the center of the galaxy its orbit is
 - a) gradually spinning closer to the center of the galaxy
 - b) staying the same distance from the center of the galaxy
 - c) gradually spinning farther from the center of the galaxy
 - d) moving out of the plane of the galaxy

- 2) We are able to understand our position in the galaxy by:
 - a) star count analysis
 - b) globular cluster position analysis
 - c) dust emission analysis
 - d) images from space probes sent outside the milkyway

- 3) The Orion Nebula is a region of glowing gas where
 - a) stars are forming
 - b) stars are dying
 - c) we find a group of comets that have left the Oort cloud
 - d) you find a supermassive blackhole.

- 4) The Andromeda galaxy is located
 - a) in the center of our galaxy
 - b) in the halo of our galaxy
 - c) in the disk of our galaxy
 - d) not in our galaxy

- 5) In elliptical galaxies you are most likely to find
 - a) lots of gas and dust
 - b) lots of young, blue stars
 - c) lots of old, red stars
 - d) spiral arms

- 6) The Hubble tuning fork is used to
 - a) determine what sound a galaxy makes
 - b) determine what color a galaxy is
 - c) determine the morphology of a galaxy
 - d) determine how galaxies evolve from one type to another.

- 7) The Sun is located
 - a) far out in the halo of the galaxy.
 - b) in the outer part of the disk
 - c) in the inner part of the disk
 - d) in the central bulge

- 8) the diameter of the milky way is approximately
- a) 26,000 ly
 - b) 3300 ly
 - c) 160,000 ly
 - d) 6500 ly
- 9) Spiral galaxies are bluer than Elliptical galaxies due to
- a) The star formation occurring in them
 - b) The stellar death rate
 - c) The stellar wind
 - d) The nebulae that are there

T/F

- 10) ___ The Hubble law revealed that the universe is contracting.
- 11) ___ The 2.7 K background radiation is due to explosions of the first stars.
- 12) ___ Almost all of the helium in the universe is manufactured inside stars.
- 13) ___ The amount of matter in the universe determines whether or not it will end in a big crunch.
- 14) ___ Grand Unified Theories predict an early rapid inflation of the universe.
- 15) ___ The brightest supernovae outshine their host galaxies by many magnitudes.

Fill in the Blank

- 16) There are estimated to be over _____ stars in our galaxy.
- 17) Globular Clusters contain _____ variable stars which are used as standard candles.

Short answer

- 18) Draw a diagram of a spiral galaxy and label the Halo, Disk, and Bulge. Which constellation do you look towards to see the center of the Milky Way?

- 19) What was the Shapley-Curtis Debate about? Who resolved the debate? How did he do it?