

Name: _____

Date: _____

Answers for the Galactic Brain Buster Game Tally Sheet

Point Value					
10	What kind of galaxies has a set of arms winding out from a bulge in the middle? spiral galaxies	What is the name of these massive stars, which usually are surrounded by out-flowing gas clouds? Wolf-Rayet stars	Which astronomer first saw a nebula's spiral shape in 1845? William Parsons	What is 149,598,000 kilometers in astronomical terms? An Astronomical unit or AU	What term is commonly used to describe how the universe began? The Big Bang
20	What type of galaxy has a disk plus a bulge in the middle with a bar? barred spiral galaxy	What type of a star has a discernable change in luminosity often accompanied by other physical changes? A variable star	Who saw the vast universe beyond the Milky Way and then found the first evidences that the universe began with a Big Bang? Edwin Hubble	What is the astronomical term for red shift, blue shift? The Doppler effect	What is the non-luminous matter in the universe, that can't be clearly detected by observing any form of electromagnetic radiation? dark matter
30	What kind of galaxy is all bulge, has an elliptical form, has no disk, and has stars but no gas? an elliptical galaxy	What type of star has the mass of our Sun and the radius of the Earth but it doesn't emit enough light or other radiation to be easily detected? A white dwarf star	Who was the Polish astronomer and mathematician who advocated that the Earth turned daily about its axis and yearly around our stationary Sun? Copernicus	What was Einstein's most famous equation? $E=mc^2$	What is the term that refers to a surface around a black hole encompassing the region where nothing can escape? The event horizon
40	What type of galaxies have shapes that don't fit into the Hubble classification for galaxies because they are neither spiral or elliptical in shape? irregular galaxies	What is the rare astronomical event involving the explosion of the majority of the material in a star, which results in an extremely bright, short-lived object that gives off vast quantities of energy? A supernova	Who was the Italian scientist who studied falling objects and discovered four moons orbiting Jupiter? Galileo	What is the name of this equation? Total livable Planets x Probability of Evolution = Planets with evolved life Drake's Equation	What is another name of the galaxy the Greeks called "galaxies kuklos"? The Milky Way
50	What is the name for colliding galaxies, which occurs because one galaxy's gravity disturbs another galaxy? interacting galaxies	What type of neutron star emits quick and recurring pulses of radiation? A pulsar	What was the name of the theorist who combined general relativity with quantum theory to predict that black holes should give off radiation and dissipate? Stephen Hawking	What is the ratio that expresses the rate of apparent expansion of the universe, equal to the velocity at which a typical galaxy is receding from Earth and is divided by its distance from Earth? Hubble's Constant	Latin for white, what is the word that means how much light a surface will reflect? albedo