ACROSS

6. Einstein hypothesized that this is really just a warp in the fabric of spacetime

7. The theory of _________ solves the flatness and horizon problem

8. ________ makes up 90% of the mass in the universe

10. If the universe’s average density is greater than this value, the universe will collapse in a Big Crunch

14. Stellar explosions used as standard candles to determine the distances of galaxies

19. The age of the universe in units of billions of years (rounded to the nearest integer)

21. The inverse of the Hubble constant can give you an estimate of the _______ of the universe

22. This currently dictates the universe’s expansion rate

23. The event that started the universe’s expansion

24. A galaxy that is four times farther away than another will be ________ times fainter

25. The astronomer best known for discovering the expansion of the universe

26. A galaxy that is four times farther away than another will have a recessional velocity that is _______ times larger

DOWN

1. The expansion of space causes light from distant galaxies to be _______ to longer wavelengths

2. The common name for the red emission line of hydrogen

3. An elementary particle that is one of the leading dark matter candidates

4. This type of galaxy is predominantly found in large clusters of galaxies

5. To measure Hubble’s Constant, astronomers must measure redshifts and ________ of galaxies

9. If space had positive curvature, the sum of the angles in a triangle would be ________ degrees

11. Cosmic Background Radiation consists of photons left behind at the time when _______ and _______ combined

12. Collisions or gravitational interactions between two gas-rich galaxies can produce a burst of ________

13. The astronomer who used globular clusters to show that the Sun was not located at the center of the Milky Way

15. A galaxy whose light is dominated by a very active, supermassive black hole

16. Gravitational ________ of background galaxies can be used to measure the total mass of a cluster of galaxies

17. These elementary particles make up protons and neutrons

18. By the universe was three minutes old, approximately ________ percent of its mass was made of helium

20. Einstein’s Theory of ________ Relativity says that nothing can travel faster than the speed of light