CRASH COURSE ASTRONOMY #43 DARK ENERGY NAME\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. In the 1990’s, two teams of astronomers were looking in the deep universe for special supernova called Type 1A and found that the mass of white dwarf is \_\_\_\_\_\_\_ the mass of the sun. This point was an important observation because this is the point at which \_\_\_\_\_\_\_\_\_\_\_\_ overcomes \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
2. Their findings showed that stars were fainter when they should have been brighter. This finding was not the results that they had thought, so what was the cause? The observed supernova was \_\_\_\_\_\_\_\_\_\_\_\_\_\_ away than they had expected. This resulted in a new revelation, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. The universe is not only \_\_\_\_\_\_\_\_\_\_\_\_\_\_ but that expansion is getting \_\_\_\_\_\_\_\_\_ every day.
4. \_\_\_\_\_\_\_ Energy seems to be a property of \_\_\_\_\_\_\_\_ itself with a small amount of \_\_\_\_\_\_\_\_\_ in every \_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_.
5. COSMIC BUDGET
6. Since Dark Energy makes up 2/3 of the cosmic budget, how does it affect the universe?
7. Is there enough gravity in space to stop the expansion?
8. Current thought is that the universe will \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
9. What is the cosmic speed limit?
10. Why is space exempt from this rule?
11. Based on redshift calculations, At what distance would a galaxy need to be away from us to be travelling at the speed of light?
12. What is the radius of the observable universe (cosmic horizon)?