Space Unit Test Review

1. Each of the following statements describes one of the planets in the solar system (and pluto). State which planet fits with each description. Pages 424-428 can help you.
   1. It was discovered in 1846 after careful observations
   2. It has more mass than all the other planets combined
   3. It has surface temperatures ranging from -180⁰C to 400⁰C
   4. It has an atmosphere containing oxygen
   5. It is neither a gas giant nor a terrestrial planet
   6. It has over 1000 rings around it
   7. It appears reddish in colour
   8. It has a very warm surface caused by its thick atmosphere
   9. It rotates on its side
2. a. Describe Earth’s position among the nine planets of the solar system

b. What features of Earth allow it to sustain life? (Meaning, how come we can live on Earth, but not on another planet?)

3. a. How could you tell if you were looking at a planet or a star in the sky?   
 b. What are two other differences between planets and stars?

4. Why do we use kilometers to describe the distances between planets and light-years to describe the distances between stars?

5. a. Which theory do we accept today: the Sun-centred theory of the solar system or the Earth-centred theory?

b. What is the difference between these two theories?

6. What is the difference between absolute and apparent magnitude of stars?

7. What is the difference between a galaxy and a star cluster?

8. How does the Sun compare to other stars?

9. What effect do solar flares have on Earth?

10. a. Describe the life of a star the same size as our Sun.  
 b. Describe the life of a star that is much bigger than the Sun.

11. Why are white dwarf stars much more common than black holes?

12. Describe the Big Bang theory.

13. Why is it difficult to see planets travelling around other stars?

14. a. Describe what ‘red shift’ means.

b. How does it provide evidence for the Big Bang?

15. a. Why is the expression ‘zero gravity’ misleading for an astronaut inside a spacecraft in an Earth orbit?  
 b. Under what condition(s) would the expression of ‘zero gravity’ not be misleading?

16. When the 2014 Olympic Games were happening in Sochi, we were able to watch them almost instantaneously. What type of satellite made this possible?

17. What are the advantages and disadvantages of using:  
 a. piloted spacecraft  
 b. unpiloted spacecraft

18. Why can’t airplanes fly in space?

19. Describe what a payload and a launcher would be on a spacecraft.

20. How is life on the International Space Station different from life on Earth? List 5 differences.