G9 Science: Class 17 Homework

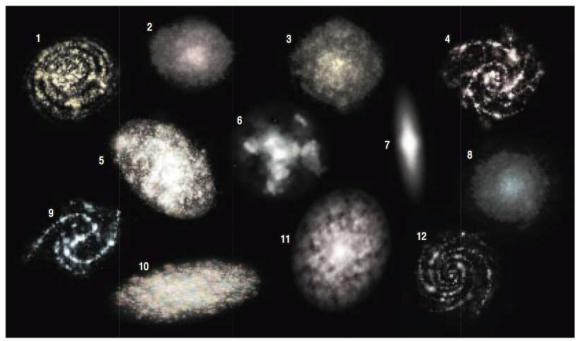
1. Using the H-R diagram as a guide, list three physical properties of the Sun. [3 marks]

- 2. How can astronomers detect black holes if they do not give off visible light? [2 marks]
- 3. a) What is the factor that determines whether a black hole will form at the end of a star's life? [1 mark]
 - b) Will the Sun form a black hole at the end of its life? Explain your reasoning. [2 marks]

4. Explain the life cycle of a star. Use key words such as supernova, neutron star, nuclear fusion, nebula, protostar, black hole, white dwarf, black dwarf, red supergiant. [11 marks]

5. What characteristics of our solar system are explained by the Solar Nebula Theory? [3 marks]

6. Label the shapes of the following galaxies: [12 marks]



| 1 | |
|----|--|
| 2 | |
| 3 | |
| 4 | |
| 5 | |
| 6 | |
| 7 | |
| 8 | |
| 9 | |
| 10 | |
| 11 | |
| 12 | |

7. Suppose there is a young protostar hidden in a certain gas cloud in our galaxy. What telescopes could we use that can gather data from the star without relying on visible light? [5 marks]

8. Describe three potential health hazards of space travel. [3 marks]

9. Why is the moon a suitable testing ground for Mars exploration? [4 marks]

10. What challenges must a spacecraft overcome to be launched into orbit? [3 marks]