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Crash Course Astronomy #34: Binary and Multiple Stars

Name: _____ Date: _____

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1. Stars that only appear to be close together from our point of view, but are not gravitationally bound, are called _____ double stars.
2. Stars that are physically orbiting each other are known as _____ stars.
3. A binary star system that can be seen as two distinct stars through a telescope is called a _____ binary.
4. The star Sirius is a good example of a _____ binary.
5. Binary systems help astronomers calculate stellar _____ using gravitational physics.
6. Stars that are too close together to be resolved visually but can be detected through Doppler shifts are called _____ binaries.
7. A binary system where one star passes in front of the other from our point of view is called an _____ binary.
8. A _____ shift occurs when a star moves away from the observer.
9. When stars in a binary system are so close that they touch or share material, they are called _____ binaries.
10. When mass flows from one star to another in a binary system, it can dramatically change the star's _____.
11. A stellar _____ is a dramatic flare-up caused by hydrogen fusion on a white dwarf's surface.
12. If enough mass accumulates on a white dwarf, it may trigger a thermonuclear explosion called a _____.
13. A supernova caused by mass transfer onto a white dwarf is different from one caused by the collapse of a _____ mass star.
14. Some binaries form from two dense clumps in a _____ cloud.
15. Systems with more than two gravitationally bound stars are known as _____ star systems.

Crash Course Astronomy #34: Binary and Multiple Stars KEY

1. Stars that only appear to be close together from our point of view, but are not gravitationally bound, are called **optical** double stars.
2. Stars that are physically orbiting each other are known as **binary** stars.
3. A binary star system that can be seen as two distinct stars through a telescope is called a **visual** binary.
4. The star Sirius is a good example of a **visual** binary.
5. Binary systems help astronomers calculate stellar **masses** using gravitational physics.
6. Stars that are too close together to be resolved visually but can be detected through Doppler shifts are called **spectroscopic** binaries.
7. A binary system where one star passes in front of the other from our point of view is called an **eclipsing** binary.
8. A **red** shift occurs when a star moves away from the observer.
9. When stars in a binary system are so close that they touch or share material, they are called **contact** binaries.
10. When mass flows from one star to another in a binary system, it can dramatically change the star's **evolution**.
11. A stellar **nova** is a dramatic flare-up caused by hydrogen fusion on a white dwarf's surface.
12. If enough mass accumulates on a white dwarf, it may trigger a thermonuclear explosion called a **supernova**.
13. A supernova caused by mass transfer onto a white dwarf is different from one caused by the collapse of a **high**-mass star.
14. Some binaries form from two dense clumps in a **gas** cloud.
15. Systems with more than two gravitationally bound stars are known as **multiple** star systems.

15 Questions

Answer Key Included

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