Name _____

Twin Stars: The Marvel of Binary Systems

Short Answer Key

1. Visual binary stars appear as two separate stars when observed through a telescope, appearing to orbit each other.
2. Spectroscopic binary stars can be detected by analyzing shifts in their light spectra caused by their motion.
3. Eclipsing binary stars create a light curve by temporarily decreasing in brightness when one star passes in front of the other. Astronomers can gather information about the stars' sizes, orbital periods, and inclination angles from the light curve.
4. Binary stars can form through fragmentation when gravitational forces cause collapsing gas and dust to break into multiple clumps, each forming a star.
5. Measuring the masses of stars accurately is important because it provides crucial data for understanding stellar evolution and the life cycles of stars. Binary stars assist in this process by allowing astronomers to apply Kepler's laws of planetary motion to calculate their masses.