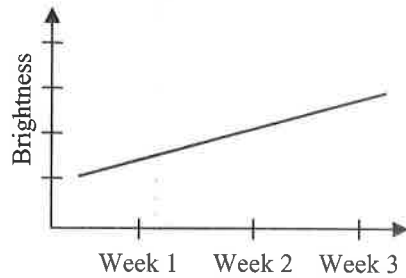
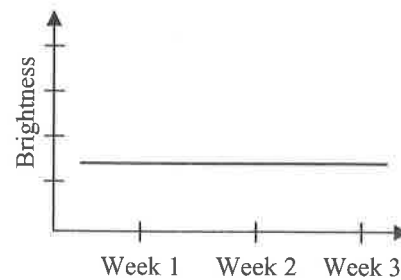


- 1) Imagine we measured the light emitted by a Sun-like (G-spectral type) main sequence star for several weeks. Which of the graphs below most likely shows how its graph of brightness versus time would look (*circle A or B*)?

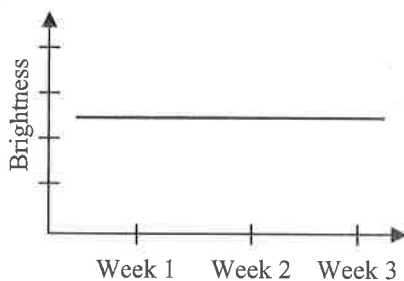


A

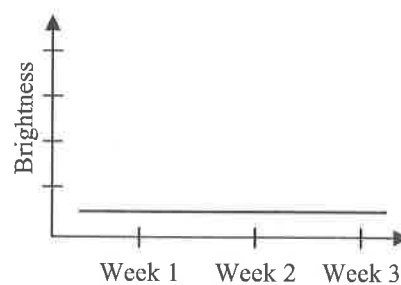


B

- 2) Imagine instead that we measure the light emitted by an A-spectral type main sequence star at the same distance as the Sun-like (G-spectral type) star from Question 1 for several weeks. Compared to the graph of the Sun-like star you chose above, which of the graphs below most likely shows how the graph of brightness versus time would look for an A-spectral type star (*circle C or D*)?

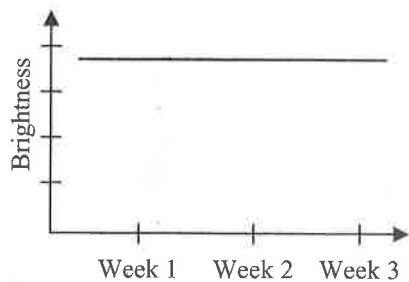


C

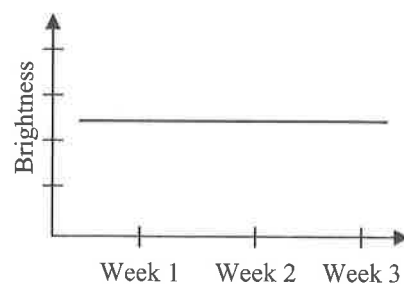


D

- 3) Imagine that these two stars are actually quite close together such that the total amount of light received from the pair can be shown in a single graph. Compared to the graphs you selected in Questions 1 and 2, which of the graphs below most likely shows how the combined graph of brightness versus time for the two stars would look (*circle E or F*)?

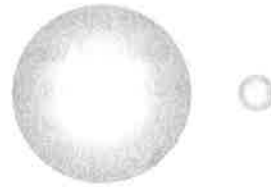


E

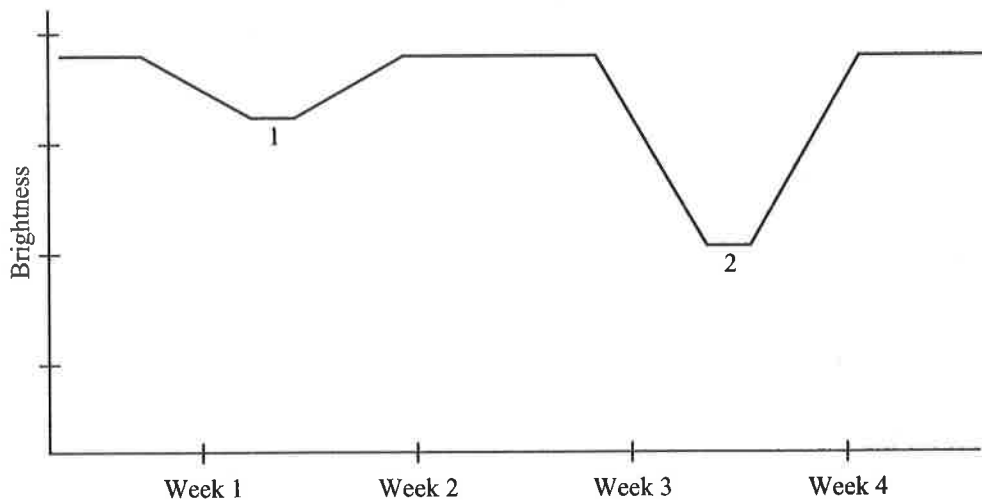


F

4. Imagine that the objects shown at the right represent the Sun-like and A-spectral type stars from the previous questions. Label which object would best represent the Sun-like (G-spectral type) star and which object would best represent the A-spectral type star.



5. Stars that are very close together will often orbit around one another, and, occasionally, their orbits are aligned in such a way that one star will pass directly in front of the other as seen from Earth. These stars are often referred to as eclipsing binary stars. Which of the two times (1 or 2) labeled below most likely indicates the time when the Sun-like (G-spectral type) star was passing **in front** of the A-spectral type star from the previous questions. (*circle 1 or 2*)?



Explain your reasoning.

- 6) What is the physical reason the bottom of the dip is a horizontal line rather than a point?