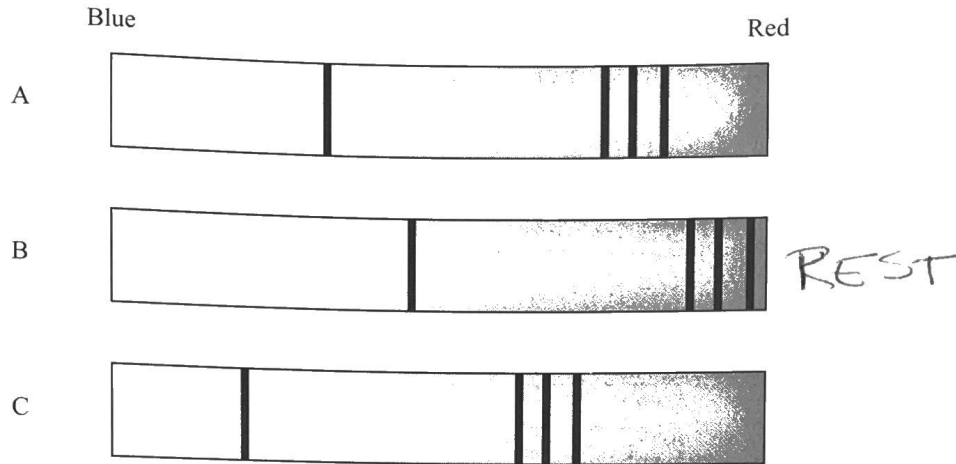


For the three absorption line spectra shown below (A, B, and C), one of the spectra corresponds to a star that is not moving relative to you, one of the spectra is from a star that is moving toward you, and one of the spectra is from a star that is moving away from you.



6) Which of the three spectra above corresponds with the star moving toward you? Explain your reasoning.

7) Which of the three spectra corresponds with the star moving away from you? Explain your reasoning.

REPEAT (6) AND (7) FOR D, E, and G below. How ARE D and E different?

Part III: Size of Shift and Speed

If two sources of light are moving relative to an observer, the light from the star that is moving faster will appear to undergo a greater Doppler shift.

Consider the four spectra at the right. The spectrum labeled F is an absorption line spectrum from a star that is at rest. Again, note that short-wavelength (blue) light is shown on the left-hand side of each spectrum, and long-wavelength (red) light is shown on the right-hand side of each spectrum.

