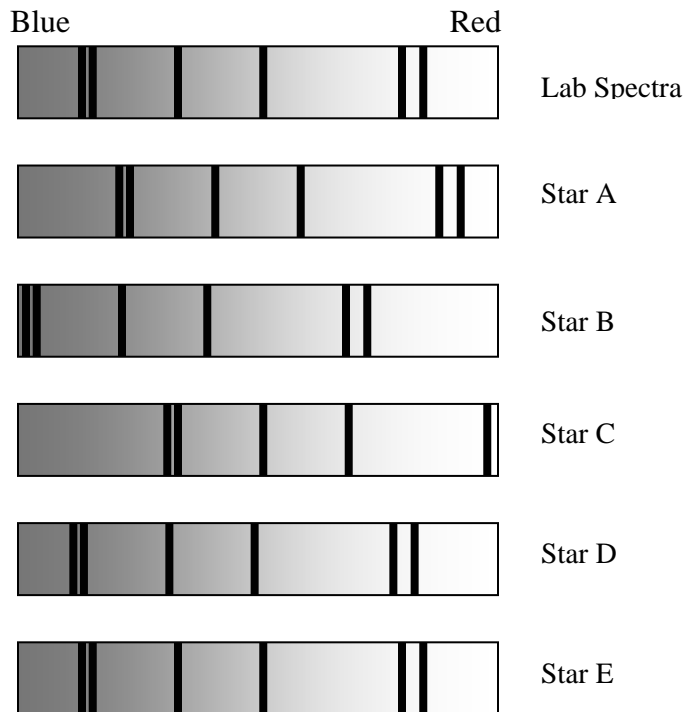


Astronomy Ranking Task: Doppler Shift

Exercise #3

Description: The first spectrum shown below is of an element as it appears in a laboratory here on Earth. In addition, the spectra of five stars (A - E) as seen from Earth are shown. Assume that the left end of each spectrum corresponds to shorter wavelengths (blue light) and that the right end of each spectrum corresponds with longer wavelengths (red light).



A. Ranking instructions: Rank the size of the Doppler shift (from largest to smallest) for the light from each star (A – E).

Ranking Order: Largest 1 ____ 2 ____ 3 ____ 4 ____ 5 ____ Smallest

Or, the Doppler shift of the light from the stars would all be the same. ____ (indicate with a check mark)

Carefully explain your reasoning for ranking this way:

B. Ranking instructions: Rank the speed of the stars (A – E) from moving fastest toward the Earth to moving fastest away from Earth.

Ranking Order:

Moving fastest toward 1 ____ 2 ____ 3 ____ 4 ____ 5 ____ Moving fastest away

Or, all the stars have the same speed. ____ (indicate with a check mark)

Carefully explain your reasoning for ranking this way:

C. Ranking instructions: Rank the distances of the stars (A-E) from closest to farthest from Earth.

Ranking Order:

Closest to Earth 1 ____ 2 ____ 3 ____ 4 ____ 5 ____ Farthest from Earth

Or, there is not enough information to determine distances. ____ (indicate with a check mark)

Carefully explain your reasoning for ranking this way:
