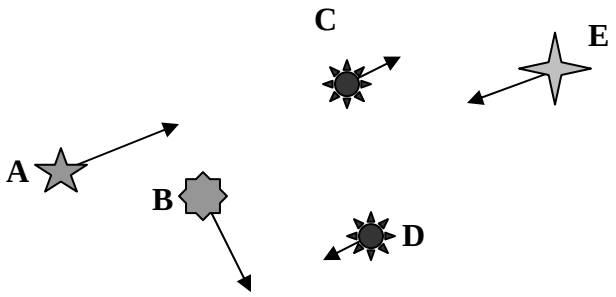
Astronomy Ranking Task:
Doppler Shift

Exercise #2

Description: The figure below shows the motion of five distant stars (A - E) relative to a stationary observer (telescope). The speed and direction of each star is indicated by the length and direction of the arrows shown.



Observer **Distant Stars**

A. Ranking Instructions: Rank the Doppler shift of the light observed from each star (A – E) from greatest "blueshift", through no shift, to greatest "redshift".

Ranking Order:

Greatest blueshift 1_____ 2 _____ 3 _____ 4 _____ 5 _____ Greatest redshift

Or, the Doppler shift for each star is the same. _____ (indicate with check mark).

Carefully explain your reasoning for ranking this way:

_____
_____
_____
_____

B. Ranking instructions: Rank the distances of the stars (A – E) to the Observer.

Ranking Order: Closest 1 ____ 2 ____ 3 ____ 4 _____ 5 _____ Farthest

Carefully explain your reasoning for ranking this way:

_____
_____
_____
_____

C. Does the Doppler shift appear to be correlated with distance? Explain why or why not. You must use specific examples from this exercise to support your argument.

Yes ◯ No ◯