Astronomy Ranking Task:
Apparent and Absolute Magnitude

Exercise #4

Description: The table below provides partial magnitude and distance information for five stars (A - E).

Star Name	Apparent Magnitude	Absolute Magnitude	Distance from Earth (parsecs)
A	-1	3	
B	5	1	
C		0	10
D	1		10,000
E	3	3	

A. Ranking Instructions: Rank the brightness (from greatest to least) of each star (A – E) as it would appear in the night sky. Note that it is not necessary, but may be helpful, to complete the table before making your rankings.

Ranking Order: Greatest 1 _____ 2 _____ 3 _____ 4 _____ 5 _____ Least

Or, the brightness of each star would appear the same from Earth ___ (indicate with check mark).

Carefully explain your reasoning for ranking this way:

_____
_____
_____
_____

B. Ranking Instructions: Rank the apparent magnitude number (from greatest to least) of each star (A – E).

Ranking Order: Greatest 1 _____ 2 _____ 3 _____ 4 _____ 5 _____ Least

Or, the apparent magnitude number of each star is the same. ___ (indicate with check mark).

Carefully explain your reasoning for ranking this way:

_____
_____
_____
_____

C. Ranking Instructions: Rank the actual brightness or luminosity (from greatest to least) of each star (A – E).

Ranking Order: Greatest 1 _____ 2 _____ 3 _____ 4 _____ 5 _____ Least

Or, the actual brightness of each star is the same. _____ (indicate with check mark).

Carefully explain your reasoning for ranking this way:

_____
_____
_____
_____

D. Ranking Instructions: Rank the absolute magnitude number (from greatest to least) of each star (A – E).

Ranking Order: Greatest 1 _____ 2 _____ 3 _____ 4 _____ 5 _____ Least

Or, the absolute magnitude number of each star would be the same. _____ (indicate with check mark).

Carefully explain your reasoning for ranking this way:

_____
_____
_____
_____

E. Ranking Instructions: Rank the distance (from farthest to closest) to each star (A – E) from Earth.

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

Or, the distance to each star from Earth would be the same. _____ (indicate with check mark).

Carefully explain your reasoning for ranking this way:

_____
_____
_____
_____