

# Astronomy Ranking Task: Apparent and Absolute Magnitude

## Exercise #4

**Description:** The table below provides an incomplete list of the magnitude and distance (from Earth) 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:

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**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:

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**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:

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**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:

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**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:

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