

Astronomy Ranking Task: Inverse Square Law

Exercise #3

Description: The table below provides an incomplete list of the luminosities, distances, and apparent brightness (all expressed in arbitrary units) of six objects labeled A through F.

Object	Distance	Luminosity	Apparent Brightness
A	1		1
B		2	2
C	2	4	
D	2		0.75
E	3	6	
F		3	0.33

A. Ranking instructions: Rank the distances of the objects.

Ranking Order: Greatest 1 _____ 2 _____ 3 _____ 4 _____ 5 _____ 6 _____ Least

Or, the distance to each object is the same. _____ (indicate with a check mark)

Carefully explain your reasoning for ranking this way:

B. Ranking instructions: Rank the actual energy output of the objects.

Ranking Order: Least 1 _____ 2 _____ 3 _____ 4 _____ 5 _____ 6 _____ Most

Or, the objects all have the same energy output. _____ (indicate with a check mark)

Or, there is not enough information to determine the energy output of the objects. _____ (indicate with a check mark)

Carefully explain your reasoning for ranking this way:

C. Ranking instructions: Rank how bright the objects appear.

Ranking Order: Brightest 1 ____ 2 ____ 3 ____ 4 ____ 5 ____ 6 ____ Faintest

Or, the objects all have the same apparent brightness. ____ (indicate with a check mark)

Carefully explain your reasoning for ranking this way:
