Astronomy Ranking Task:  
Gravity

Exercise #3

Description: In the picture below, the Earth-Moon system is shown (not to scale) along with five possible positions (A - E) for a spacecraft traveling from Earth to the Moon. Note that position C is exactly half-way between Earth and the Moon.

A. Ranking Instructions: Rank (from greatest to least) the strength of the gravitational force at positions A - E exerted by the Moon on the spacecraft.

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

Or, the gravitational force exerted at each position is the same. _________ (indicate with a check mark)

Carefully explain your reasoning for ranking this way:

___________________________________________________________________________
___________________________________________________________________________
___________________________________________________________________________

B. Ranking Instructions: Rank (from greatest to least) the strength of the net (or total) gravitational forces at positions A - E exerted by both the Earth and the Moon on the spacecraft.

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

Or, the gravitational force exerted at each position is the same. _________ (indicate with a check mark)

Carefully explain your reasoning for ranking this way:

___________________________________________________________________________
___________________________________________________________________________
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