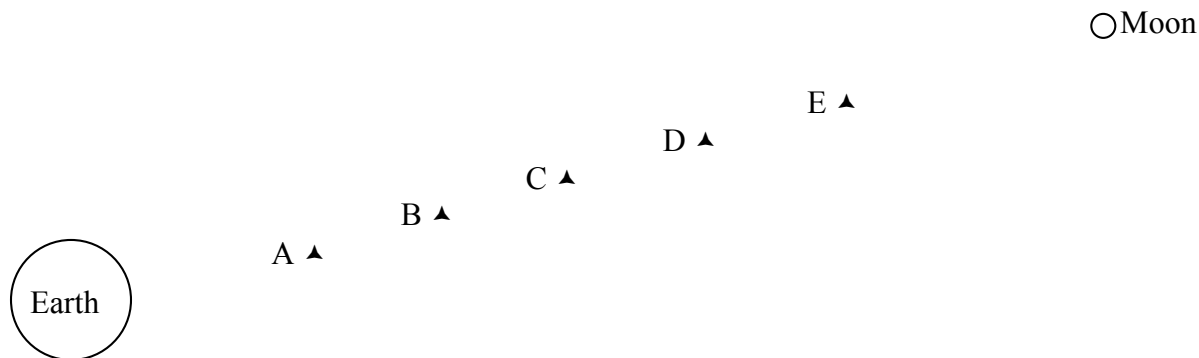


# Astronomy Ranking Task: Gravity

## 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:

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**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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