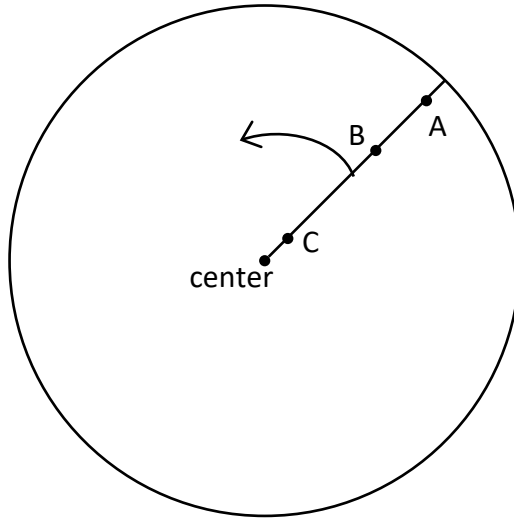


# Astronomy Ranking Task: Dark Matter

## Exercise #1

**Description:** Below is a rigid circular disk with its center labeled. Three points (A, B, and C) are labeled along a radius of the disk. The disk rotates counterclockwise about the center as indicated by the arrow.



**A. Ranking instructions:** Rank the lengths of the rotational periods of each point.

Ranking Order: Shortest 1 \_\_\_\_\_ 2 \_\_\_\_\_ 3 \_\_\_\_\_ Longest

Or, all the points have the same rotational period. \_\_\_\_\_ (indicate with a check mark)

Or, there is not enough information to determine the lengths of the rotational periods. \_\_\_\_\_ (indicate with a check mark)

**Carefully explain** your reasoning for ranking this way:

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**B. Ranking instructions:** Rank the rotational speeds of the points.

Ranking Order: Slowest 1 \_\_\_\_\_ 2 \_\_\_\_\_ 3 \_\_\_\_\_ Fastest

Or, all the points rotate with the same speed. \_\_\_\_\_ (indicate with a check mark)

Or, there is not enough information to determine the rotational speeds. \_\_\_\_\_ (indicate with a check mark)

**Carefully explain** your reasoning for ranking this way:

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