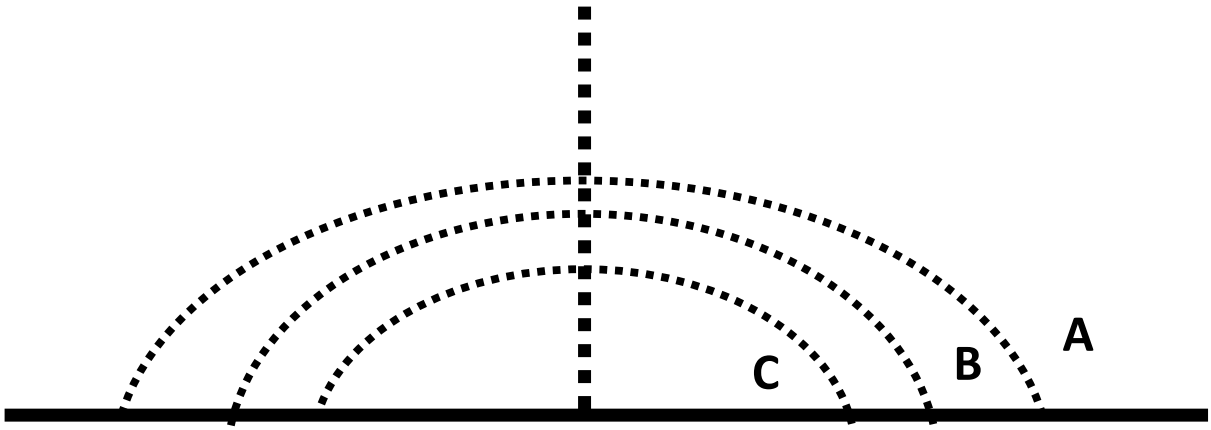
Astronomy Ranking Task:

Path of the Sun

Exercise #1

Description: This figure shows the path of the Sun through the sky on three different days of the year. **Assume that today is December 21st, the paths shown are all before the month of June** and that the observer is located in the northern hemisphere:



South

A. Ranking Instructions: First, draw in the directions east and west on the figure. Next, rank the length of time the Sun will be above the horizon each day (from shortest to longest) for each of the paths shown in the graph.

Ranking Order: Shortest 1___ 2___3___ Longest

Or, all the Sun will be above the horizon equal amounts of time.____ (indicate with a check mark) **Carefully explain** your reasoning for ranking this way:

_____

_____

_____

_____

B. Ranking Instructions: Rank the times of the year each path could be (from just after December 21st to just before June) of each path:

Ranking Order: December 21st 1___ 2___3___ June

Or, any order of the paths would work.____ (indicate with a check mark)

Carefully explain your reasoning for ranking this way:

_____
_____
_____
_____

C. Ranking Instructions: Rank the length of a shadow from an object at noon for each path (from shortest to longest) :

Ranking Order: Shortest 1___ 2____ 3___ Longest

Or, the shadows at noon are the same in each case: ___

(indicate with a check mark)

Carefully explain your reasoning for ranking this way:

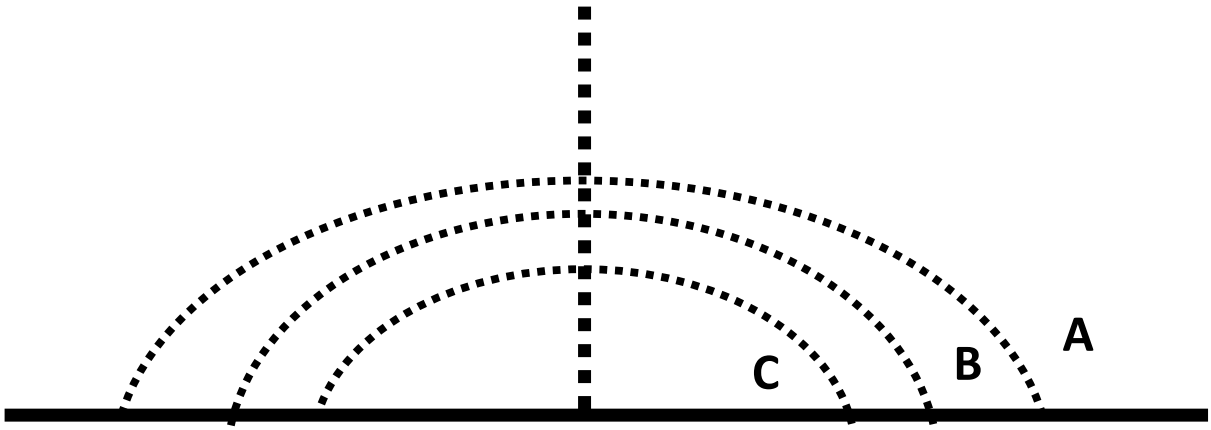
_____
_____
_____
_____

Astronomy Ranking Task:

Path of the Sun

Exercise #2

Description: This figure shows the path of the Sun through the sky on three different days of the year. **Assume that today is June 21st, the paths shown are all before the month of December** and that the observer is located in the northern hemisphere:



South

A. Ranking Instructions: First, draw in the directions east and west on the figure. Next, rank the length of time the Sun will be above the horizon each day (from shortest to longest) for each of the paths shown in the graph.

Ranking Order: Shortest 1___ 2___3___ Longest

Or, all the Sun will be above the horizon equal amounts of time.____ (indicate with a check mark) **Carefully explain** your reasoning for ranking this way:

_____

_____

_____

_____

B. Ranking Instructions: Rank the times of the year each path could be (from just after June 21st to just before December) of each path:

Ranking Order: June 21st 1___ 2___3___ December

Or, any order of the paths would work.____ (indicate with a check mark)

Carefully explain your reasoning for ranking this way:

_____
_____
_____
_____

C. Ranking Instructions: Rank the length of a shadow from an object at noon for each path (from shortest to longest) :

Ranking Order: Shortest 1___ 2____ 3___ Longest

Or, the shadows at noon are the same in each case: ___

(indicate with a check mark)

Carefully explain your reasoning for ranking this way:

_____
_____
_____
_____