

# Question 1

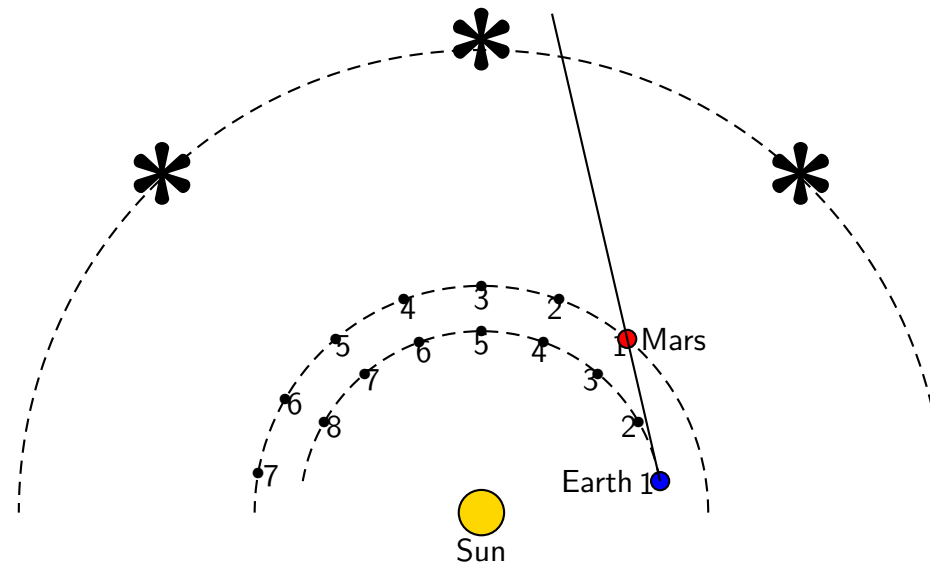
In a simple geocentric model Earth is fixed at the center of the solar system. The Sun, Moon, planets and stars orbit in distinct circular paths at different (angular) rates. Consider the daily motion of the Sun and Moon that you can observe with just your naked eyes.

Which of the following is true about this geocentric model?

1. The model cannot predict any observed behavior of the solar system correctly.
2. The model could predict the basic features of the daily motion of the Sun and also the Moon correctly.
3. The model could predict the basic features of the daily motion of the Moon correctly but not the Sun.
4. The model could predict the basic features of the daily motion of the Sun correctly but not the Moon.

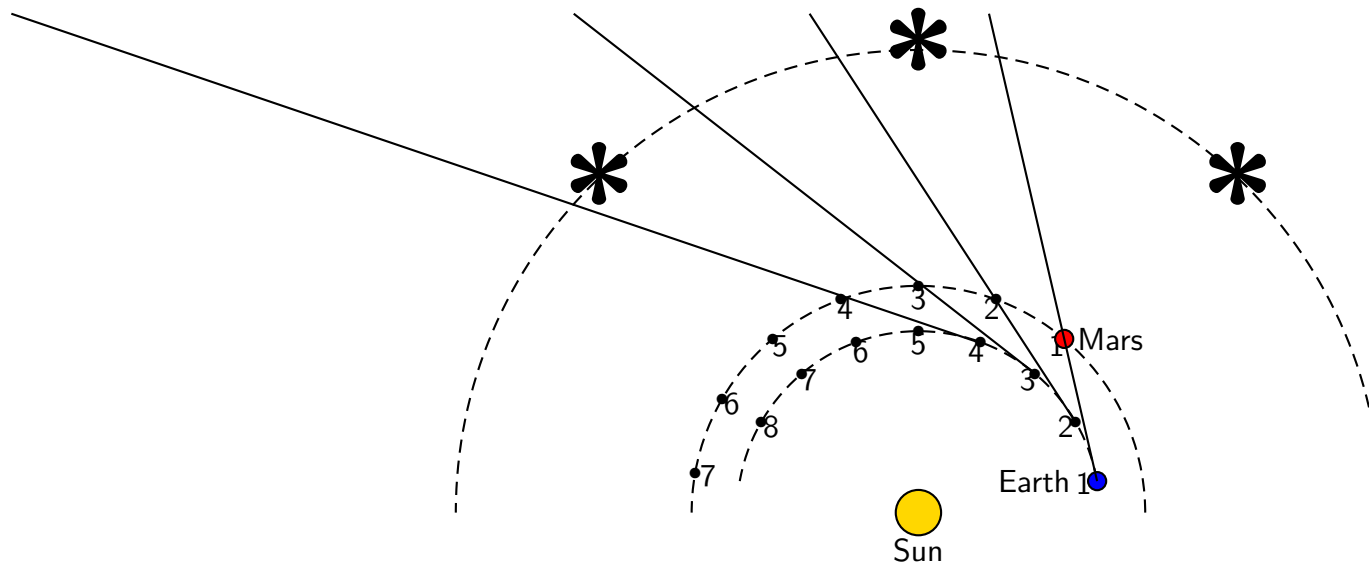
# Mars and Earth in a Heliocentric Model: Same Rates

Tracing the apparent position of Mars as viewed from Earth. First instant.

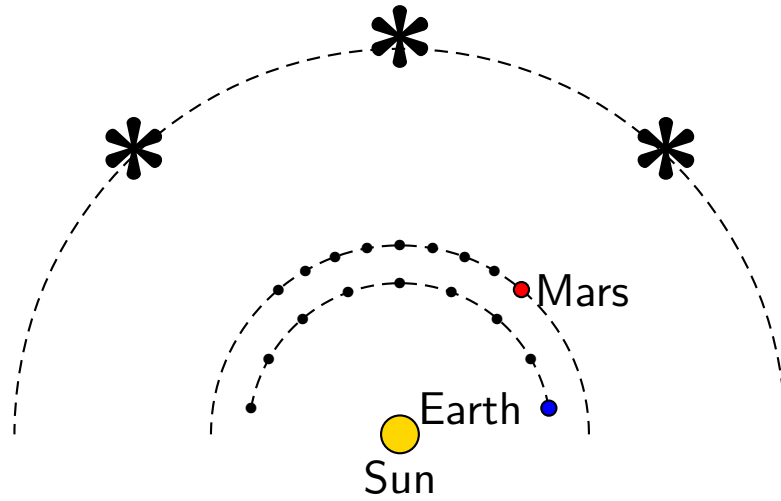


# Mars and Earth in a Heliocentric Model: Same Rates

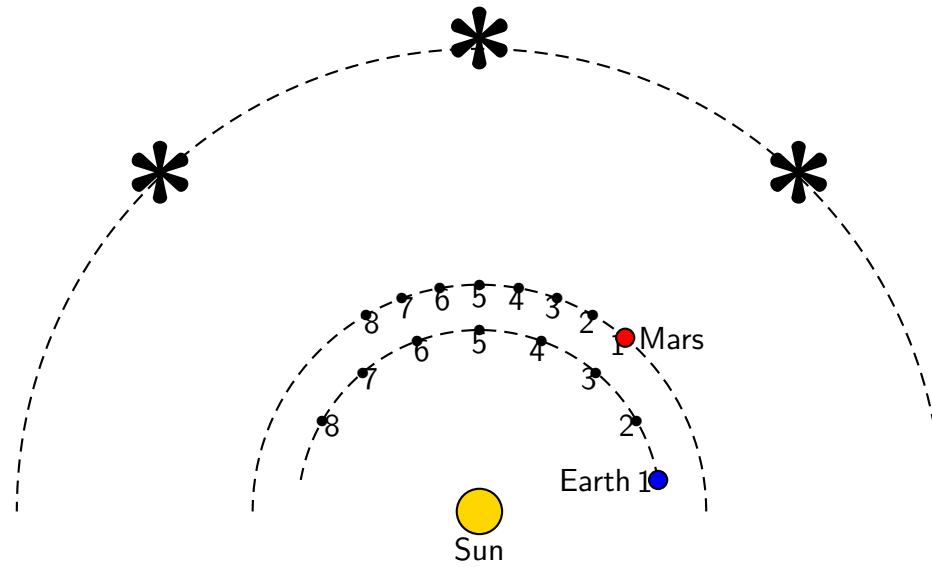
Tracing the apparent position of Mars as viewed from Earth. First and later instants.



# Mars and Earth in a Heliocentric Model

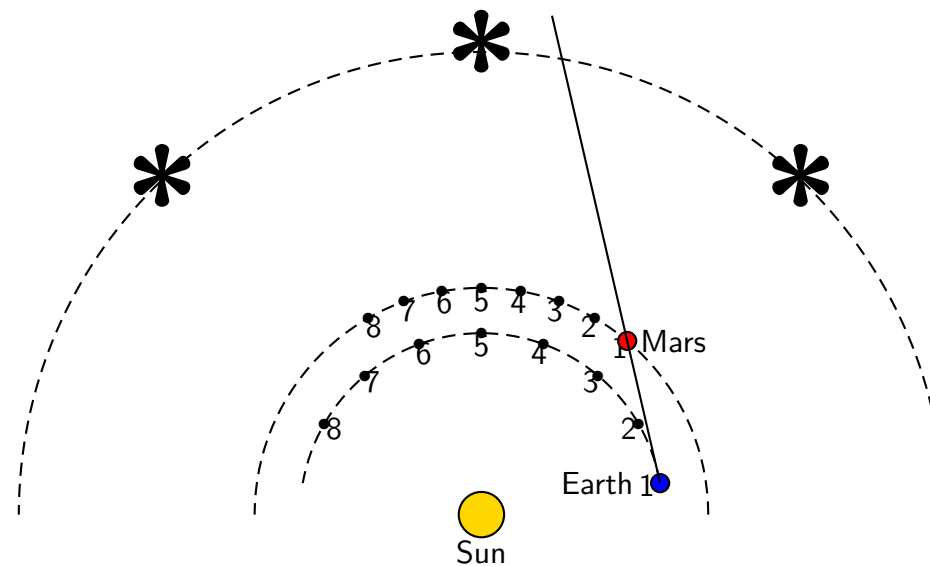


# Mars and Earth in a Heliocentric Model: Different Rates



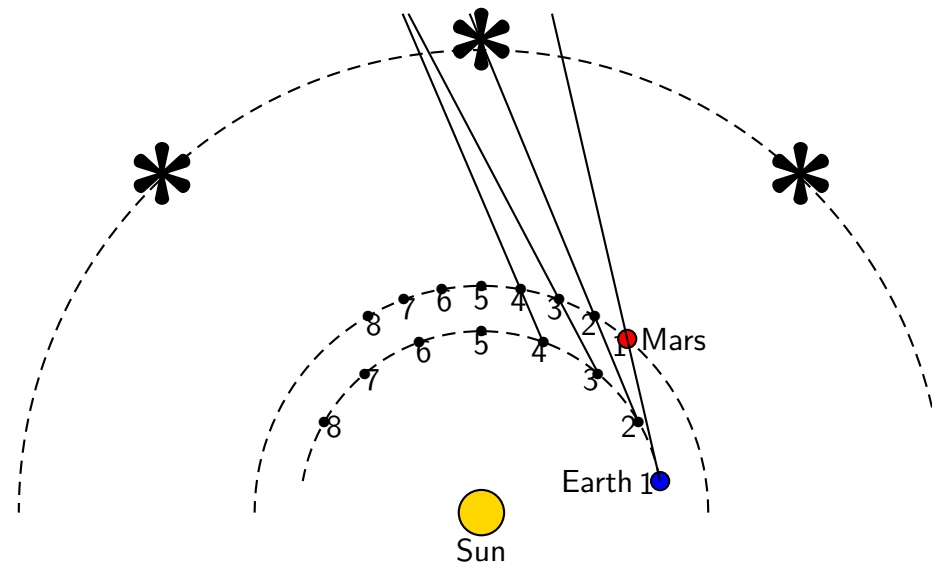
# Mars and Earth in a Heliocentric Model: Different Rates

Tracing the apparent position of Mars as viewed from Earth. First instant.



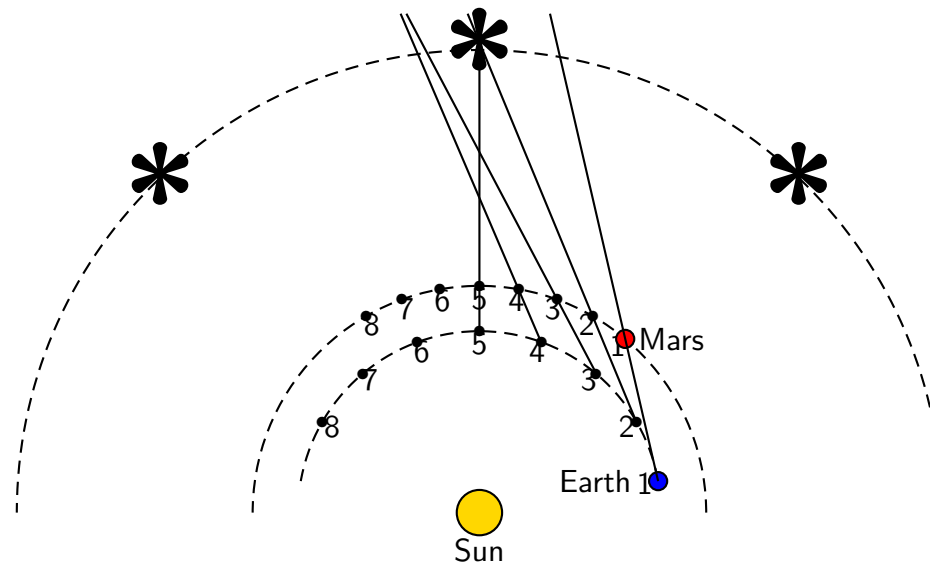
# Mars and Earth in a Heliocentric Model: Different Rates

Tracing the apparent position of Mars as viewed from Earth. First, second, third and fourth instants.



# Mars and Earth in a Heliocentric Model: Different Rates

Tracing the apparent position of Mars as viewed from Earth. First to fifth instants.





# Mars and Earth in a Heliocentric Model: Different Rates

Tracing the apparent position of Mars as viewed from Earth. Retrograde motion during fourth to sixth instants.

