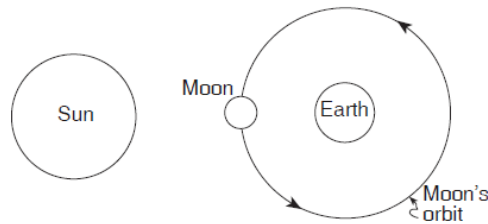


MIDTERM PART II REVIEW #3 – ANSWERS and EXPLANATIONS

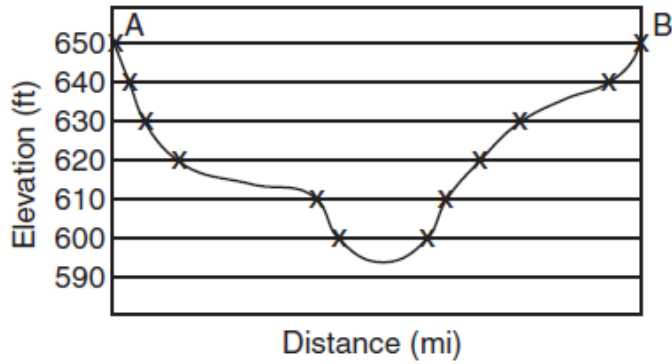
1. **troposphere** – Use the *ESRT* page 14 Properties of Earth's Atmosphere Chart.
The troposphere is the lowest layer of the atmosphere, closest to the Earth's surface.
2. **methane, CFCs, ground-level ozone, and nitrogen dioxide** are all examples of greenhouse gases that trap infrared energy in Earth's atmosphere.
3. An increase in carbon dioxide would trap more infrared heat energy causing the Earth's polar icecaps to melt. This would lead to a world-wide increase in sea-level.
4. Any answer related to "going green" would be acceptable. Some of these examples would be: using alternative energy sources, such as solar or wind power; carpooling or driving less; using mass-transit (public transportation); enacting laws that limit factories use of fossil fuels by placing restrictions on the amount of emissions produced by those factories; reduce deforestation.
5. The Moon must be placed between the Sun and the Earth for a solar eclipse to occur



(Not drawn to scale)

6. The moon makes **1 revolution** each month. The *ESRT* says that the Moon takes 27.3 days (about a month) to revolve around the Earth. (Technically, in a month, the Moon makes **1.1 revolutions**, but 1 revolution is acceptable).
7. Any of the following answers that explain why we don't get an eclipse each month is acceptable:
 - The Moon's orbit around Earth is *not* always in the same plane as Earth's orbit around the Sun.
 - The Moon usually passes above or below the Sun as seen from Earth.
 - The Sun, Moon, and Earth are only occasionally aligned in a straight line.

8.



9. Any answer from 701 feet to 709 feet is acceptable for an elevation of point C.

10. 8 miles / hour

Rate of Change = change in value / time

$$= 32 \text{ miles} / 4 \text{ hours}$$

The distance (change in value) is given in "the blurb" right above the map

$$= 8 \text{ miles} / \text{hour}$$

11. The higher the altitude of the Sun, the shorter the shadow length.
(just a fact you need to know ...)

12. Since on June 21st the Sun is highest in the sky at noon, the shadow should be shorter than any of the other diagrams, but still should point north.

