

# Assignment 5

Please type your responses into a word document, and submit that on UNM Learn. Show your work for all questions. You can take scans/pictures of your work if you put them in the word document, but don't submit them as images. Be sure to number your responses 1, 2(a), etc. so I know which question you're answering. If you get stuck, post a question on the forums. Chances are you're not the only one!

1. (20 points) List the three hypotheses for the creation of the following, explain why they are correct and incorrect, and explain the presently accepted theory.
  - (a) Earth's Moon.
  - (b) Earth's atmosphere.
2. (20 points) Earth, Venus, and Mars share some similarities.
  - (a) Explain the runaway greenhouse effect and the runaway refrigerator effect.
  - (b) How do these relate to Mars, Venus, Earth, and global warming?
3. (20 points) We've discussed the Doppler shift that occurs in the wavelengths of waves emitted from a source moving towards or away from us (see Ch 5 if you get stuck!).
  - (a) Define redshift and blueshift.
  - (b) Describe how we can send a wavelength and analyze its reflection off of a planet to tell whether it is moving towards or away from us.
  - (c) How can you tell how fast the planet is moving (answer qualitatively)?
  - (d) Describe how we can send a wavelength and analyze its reflection off of a planet to tell whether it is spinning.
  - (e) How can you tell how fast the planet is rotating (answer qualitatively)?
4. (10 points) Visit <https://mars.nasa.gov/programmissions/missions/future/> and elaborate briefly on a mission that will bring rocks back from Mars.