Homework Set #2
Due Mon Oct 12 at discussion section

Suppose the Moon were shaped like a **cube** instead of a sphere. Let us assume that the moon's orbital period around the Earth is the same as its spin period about its own axis, both equal to 30 days (like the actual Moon). Choose a configuration for the cube that yields the **simplest** set of shapes and phases from the perspective of an observer on Earth. Assume the Moon's orbital plane is tilted slightly with respect to the Earth's orbital plane around the Sun so that there are **no eclipses** to consider.

Answer the following questions:

A. What shape would the Moon appear to be to an observer on Earth? **(1 point)**

B. Draw the phase of the Moon at a time when it is more or less overhead at midnight from the perspective of the observer on Earth. Let us call this Day 0. **(2 points)**

C. Draw the phases of the Moon on the following days: Day 5, 10, 15, 20, and 25. **(10 points)**

D. Describe in a sentence or two how similar or different these lunar phases are compared to the actual (spherical) Moon. **(2 points)**