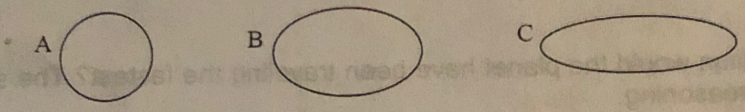
Part III: Kepler's Second Law and Eccentricity

Consider the table below listing the orbit eccentricities for objects in the solar system. Recall that an orbit with an eccentricity of zero is perfectly circular whereas the highly elliptical orbits shown in Parts I and II would have a high eccentricity of approximately 0.90.

Object	Eccentricity of Orbit
Mercury	0.206
Venus	0.007
Earth	0.016
Mars	0.093
Jupiter	0.048
Saturn	0.054
Uranus	0.047
Neptune	0.008
Pluto	0.248

12) Which of the three orbits shown below (A, B, or C) would you say most closely matches the shape of Earth's orbit around the Sun? Explain your reasoning.



13) Which of the listed objects would experience the largest change in orbital speed and which would experience the smallest change in orbital speed?

14) Describe the extent to which you think Earth's orbital speed changes throughout a year? Explain your reasoning.