LESSON 3: Introduction to Discrete Dynamical Systems

OBJECTIVES:

1. Understand the difference between discrete and continuous models.
2. Determine when discrete modeling is appropriate and the notation to be used.
3. Understand how recursive and difference relationships can be used to model real world problems (the idea that the future is equal to the present plus some change).
4. Given an initial condition, manually iterate a recursion equation.

ASSIGNMENT:

READ: Section 1.2 in Modeling in a Real and Complex World

DO: Questions 1, 2, 3 of Section 1.2 in Modeling in a Real and Complex World.

THINK ABOUT: Half the Distance to the Goal

In football, when a team's penalty is greater than the distance to the goal line, the team is assessed a penalty equal to "*half the distance to the goal line*." Determine the sequence that describes the situation is on the 8 yard line and receives 10 consecutive penalties.

HELPFUL REFERENCES:

Sequences Stewart CH 11, Section 11.1, pp. 674-684