

Quiz #4

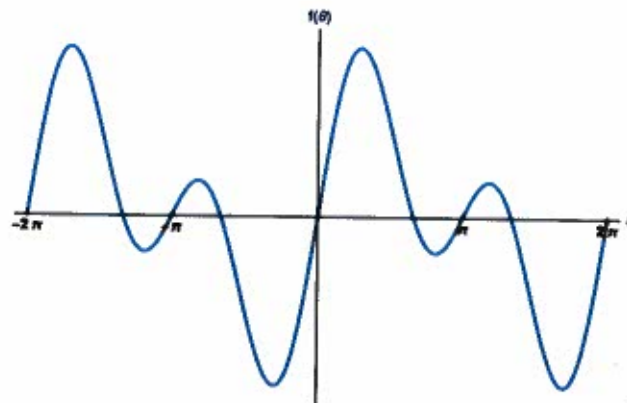
MTH 351/651: Fall 2025

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Problem 1. Consider the following dynamical system *defined on a circle*:

$$\dot{\theta} = f(\theta),$$

where $f(\theta)$ is plotted below:



On the unit circle shown below (with 0 indicated), sketch the phase portrait of the system. Indicate the direction of motion with arrows and label any equilibria and their stability.

