Worksheet 2/2/2026

1) Draw the phase portrait of the following autonomous equations and graph a few solutions.

a) $y' = \sin(y)$

b) $y' = y^2(y-1)(y-2)$

c) $y' = \frac{y^2-1}{y}$

2) Use Euler's method solve numerically the initial value problem $y' = x + y^2$, $y(-1) = 0$ at $x = -1, -0.9, -0.8, -0.7$.