

**WORKSHEET 11/28/22**  
**MATH 2331, FALL 2022**

- (1) The following discrete dynamical system is a simple model of glucose and insulin levels in the body:

$$\begin{aligned}g(t+1) &= 0.9g(t) - 0.4h(t) \\h(t+1) &= 0.1g(t) + 0.9h(t).\end{aligned}$$

Why does the model make sense?

- (2) What happens when we apply our general approach to discrete dynamical systems in this example?
- (3) Let  $z = 3 + 4i$ . Plot  $z$  and  $iz$  in the complex plane  $\mathbb{C}$ . What do you notice?