**Hunter competition application for Tiktok and WeChat**

Consider the competitive hunter model defined by

where represents the trout population and the bass population.

1. What assumptions are implicitly being made about the growth of trout and bass in the absence of competition?
2. Interpret the constants and in terms of the physical problem.
3. Perform a graphical analysis and answer the following questions:
4. What are the possible equilibrium levels?
5. Is coexistence possible?
6. Sketch typical trajectories in the phase plane.
7. Interpret the outcomes predicted by your graphical analysis in terms of the constants and .
8. Use the above differential equation model (maybe improved model) to analyze the user number competition between Tiktok and WeChat social software platform based on the public user data of the network.

**Note:** When you get to step **(i.)**, you should realize that at least five cases exist. You will need to analyze all five cases.