Trop and Strat Discussion Questions Week 1

1. Define terms: cyclogenesis, propagation, baroclinic wave, wave amplification, baroclinic instability
2. What are the two primary balances that apply to larger scale midlatitude flows?
3. What do we mean by balanced flow? Give an example of a balanced flow.
4. What happens when balance is disrupted (horizontally and/or vertically)?
5. Explain both verbally and mathematically how agesotrophic flow acts to restore geostrophic balance.
6. What is the thermal wind, physically and mathematically?
7. What do we mean by thermal wind equilibrium and how does it relate to geostrophic balance?
8. Write down the QG momentum, thermodynamic, continuity, and vorticity equations. Explain what each term is.
9. What causes changes in temperature? What changes vortiicity?