Example. Consider the population model

\[ y' = -3 \left( 1 - \frac{y}{2} \right) \left( 1 - \frac{y}{3} \right) y \]

(a) Find all critical (equilibrium) values of \( y \) and determine whether they are asymptotically stable or unstable.

(b) Suppose \( y(0) = y_0 > 0 \). Consider the behavior of \( y(t) \) as \( t \to \infty \). How does the behavior depend on the value of \( y_0 \)?
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