Qualitative features

For each of the following differential equations, find the equilibria, sketch representative solutions, and determine where concavity changes direction.
Throughout, $s, L, P, Q$ are positive constants.

1. \[ \frac{dN}{dt} = sN^2 (L - N). \]
2. \[ \frac{dN}{dt} = sN (L - N)^2. \]
3. \[ \frac{dN}{dt} = sN^2 (L - N)^2. \]
4. \[ \frac{dN}{dt} = sN^3 (L - N)^3. \]
5. \[ \frac{dN}{dt} = sN (P - N) (Q - N). \]