

Lab 10 Expectations

Submit 1(a) (3 graphs), 1(c), 2, 4(b) (3 graphs)

- Attach the graphs for S vs. I , S vs. t , and I vs. t . Describe what happens to S and I over time.
 - Find the maximum I AND the corresponding t value.
 - Graph S vs. t and I vs. t on the same graph. Attach it, and include both the value(s) where $S=I$ and the t at which that occurs.
 - Find $S(2)$, $I(2)$, and $I(3)$.
- Graph S vs. t and I vs. t on the same graph with the new a and b . Attach it, find the new infected value, and write a short sentence comparing it to the value of $I(3)$ from 1(d).
- Complete corresponding tables, do they agree with $S(t^*)=b/a$, and give a mathematical explanation as to why $S(t^*)=b/a$.
- Find $s+i+r$ (Note this is not included in (a) or (b), but is still part of the problem).
 - Derive the system for s' , i' , and r' .
 - Submit three graphs and 3 True/False answers with explanations justifying your answer.
- Proof that $dS/dI = aSI/(bI-aSI)$ showing all work.
 - Solve for $I(t)$ with initial conditions showing all work.