*Report what is the minimum value of n for which you get non-oscillatory results for each case.*

For this level of diffusion, our regime seems very stable. We can take n as low as we like without any oscillatory solutions. It should be noted that we had to tell ode15s to evaluate the solutions at the same time.

With less diffusion, the approximations became more sensitive to changes in n. Around n = 40, oscillations began to appear in the solution. Note: These oscillations appear more visibly in the strong form of the equation than in the weak form of the equation. Halving the step size again to n = 20 results in errors in ode15s. Therefore, the regime fails completely somewhere between n = 40 and n = 20. We can say that the smallest n can be without oscillations is therefore n = 80 (double n = 40).