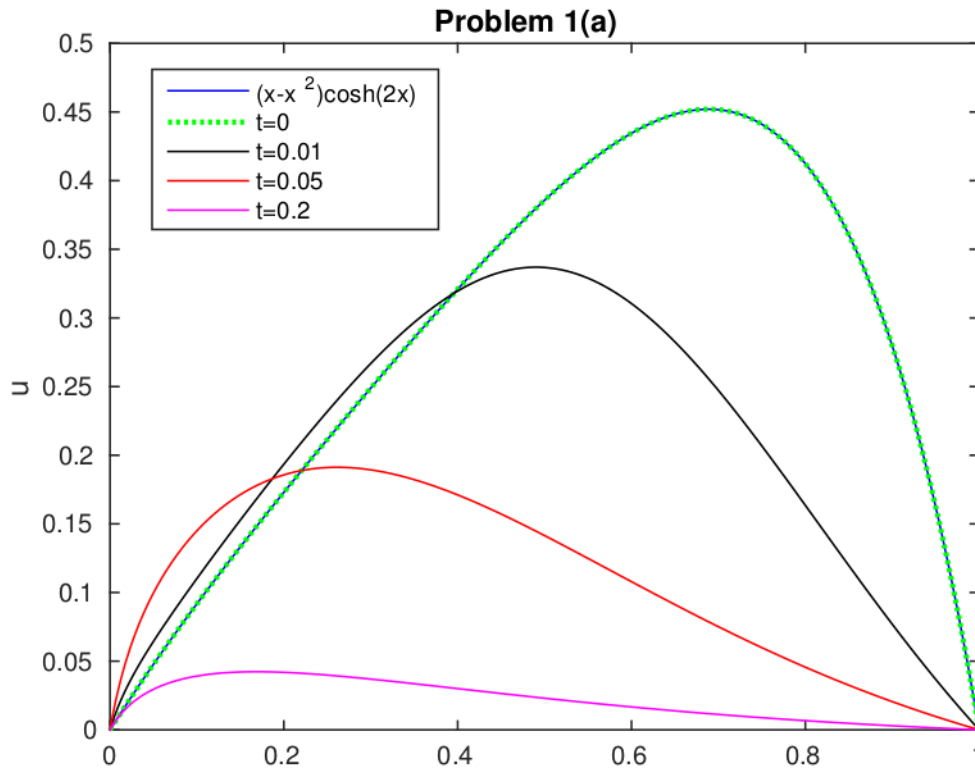
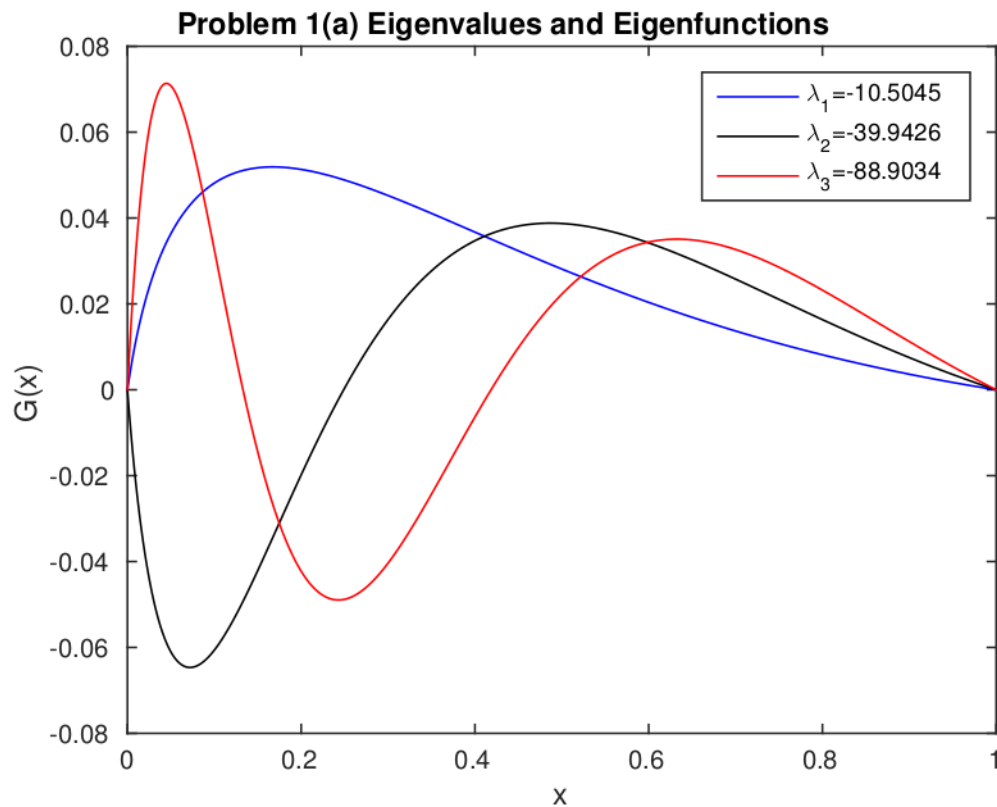


Prob 1.

(a)

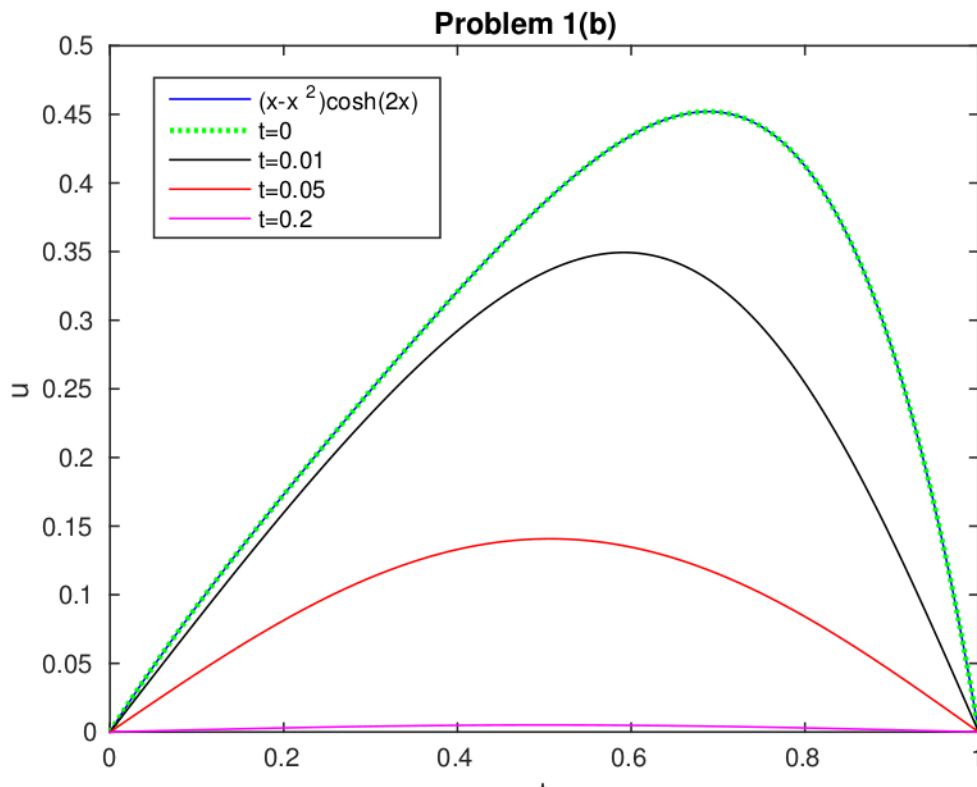


First 3 eigenfunctions:



(b)
 (The eigenfunctions for this part are simply $\sin(n\pi x)$, $n = 1, 2, 3, \dots$)

Plot of $u(x, t)$:



Prob 2.

$$u(r, \theta) = r^3 \sin(3\theta) + 0.5 r^6 \sin(6\theta) .$$

Plot:

