

Exercise 6

If $a_0 = a_l = a$ in the Robin problem, show that:

- (a) There are *no* negative eigenvalues if $a \geq 0$, there is *one* if $-2/l < a < 0$, and there are *two* if $a < -2/l$.
- (b) Zero is an eigenvalue if and only if $a = 0$ or $a = -2/l$.