

Worksheet 5: I was not happy again with **all** the problems available in Webassign (there is still webassign homework!), so please show all your work for the following problems from the book. This is due on Monday Oct 14. (After break)

Chapter 6, Problem 48(3rd ed.)/52(4th ed.), 54(3rd ed.)/62(4th ed.).

And this extra question. Note: The transmitted and reflected ratios the 2 places where we are comparing have different velocities. In this case, one must calculate probability/s. For instance, a transmission probability may look like:

$$T = \frac{C_{II}^* C_{II} |v_{II}|}{A_I^* A_I |v_I|}$$

Where the C's represent the amplitude of the wave function moving to the right in the region of non-zero potential.

Find the reflection and transmission probabilities for the simple barrier shown below for the case where a travelling wave is incident from the left and $E > V_0$ (show $R + T = 1$)



What about the same case but with V_0 replaced with $-V_0$?

