Special Problem II.A-32

Show by **direct substitution** that the expression for $V(z)$ (eq. 2.6a) and $I(z)$ (eq. 2.6b) are in fact valid solutions to the both **telegrapher's equations** (eqs. 2.3a and 2.3b), as well as both transmission line **wave equations** (eqs. 2.4a and 2.4b).

In other words, show (by evaluating the derivatives and performing algebraic manipulation) that for **each** of the four equations (2.3a, 2.3b, 2.4a and 2.4b), once the solutions of eq. 2.6 are inserted, the quantity left of the equal sign is **precisely** the **same** as the quantity on the right of the equal sign.

Hint: Don't for get the definition of **Characteristic Impedance**