**Derivation of Equation 2b**

1. Begin with the time and distance at normal speed:

2. Substitute the proportions of slow and fast distance to equal the same total time:

3. Replace so there is only one unknown, based on the fact that :

4. Multiply both sides by :

5. Rearrange the equation so is on one side:

6. Isolate in 2 steps:

7. Simplify the denominator:

8. Multiply by the inverse of the denominator to simplify the equation to the final version: