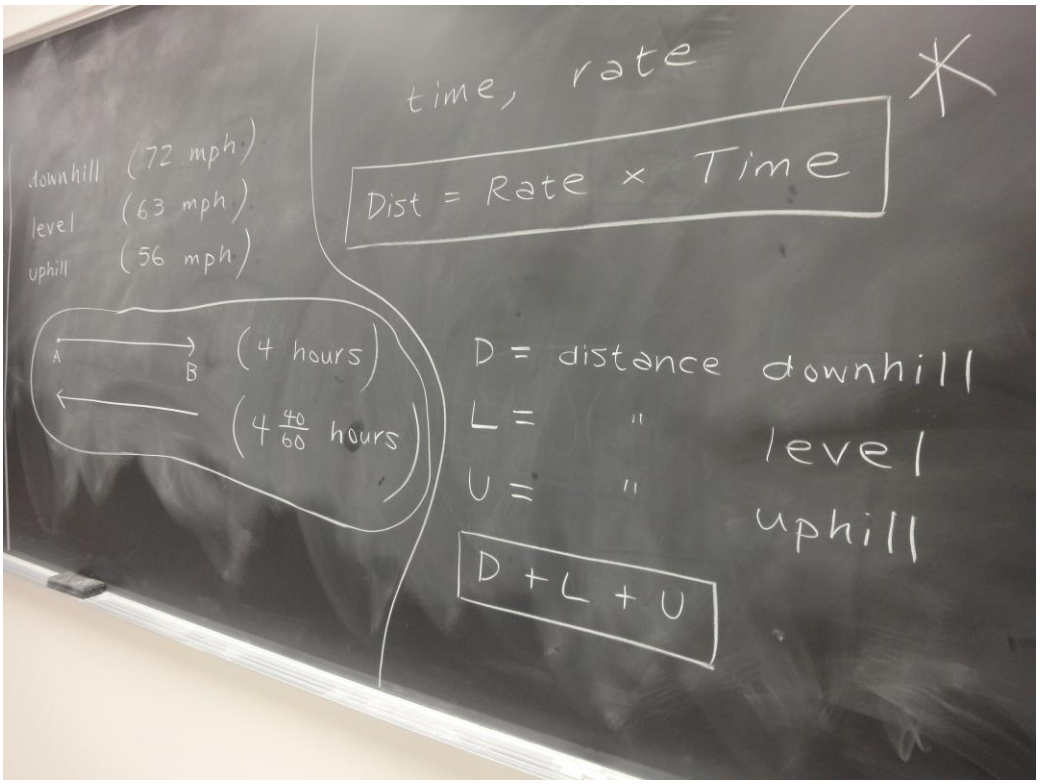
HOW FAR?

A car travels downhill at 72 mph, on level ground at 63 mph, and uphill at 56 mph. The car takes 4 hours to travel from town A to town B. The return trip takes 4 hours and 40 minutes.

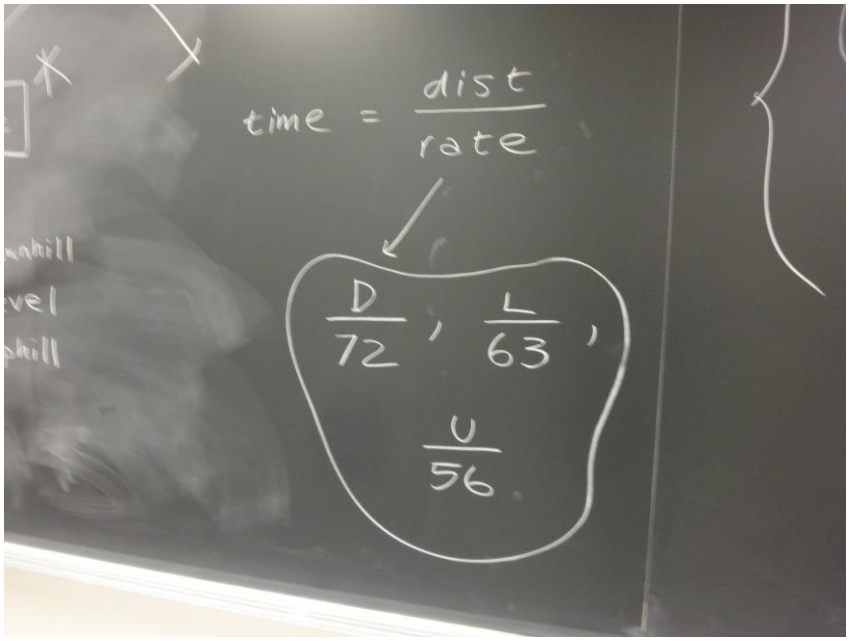
Find the distance between the two towns.

Here is what we know (direct from reading the problem):



Distance = Rate × Time is also a big piece of this problem.

Now look at the sequence of boards below to see how you can solve this problem.



$$\begin{cases} \frac{D}{72} + \frac{L}{63} + \frac{U}{56} = 4 \quad (A \to B) \\ \frac{U}{72} + \frac{L}{63} + \frac{D}{56} = 4\frac{2}{3} \quad (B \to A) \end{cases}$$