2010-2011: What would Lincoln's average speed have been, in mph, from the Washington Monument to the Lincoln Memorial?

We can use the formula Rate × Time = Distance to solve this problem. For Washington and Lincoln to tie, their total times must be the same. Since we are concerned with their times, we'll probably want to use a different form of the equation above: Time = Distance ÷ Rate. Washington's total time for the two portions of the race is (1.2 mi ÷ 6 mph) + (0.7 mi ÷ 4.8 mph). If we let Lincoln's average speed for the second portion of the race be x mph, then we can represent his total time for the race as (1.2 mi ÷ 5.2 mph) + (0.7 mi ÷ x mph). We want them to tie, so we'll set these two total times equal to each other: (1.2 mi ÷ 6 mph) + (0.7 mi ÷ 4.8 mph) = (1.2 mi ÷ 5.2 mph) + (0.7 mi ÷ x mph). We can rewrite our equation as [(1.2 mi ÷ 6 mph) + (0.7 mi ÷ 4.8 mph) − (1.2 mi ÷ 5.2 mph)] = (0.7 mi ÷ x mph). Using our equation facts, we can rewrite this as x = (0.7 mi) ÷ [(1.2 mi ÷ 6 mph) + (0.7 mi ÷ 4.8 mph) − (1.2 mi ÷ 5.2 mph)]. Entering the right side of this equation into a calculator, we get x = **6.1** mph, to the nearest tenth. (Note: It's certainly possible to reduce some of these values along the way, but in doing so, some rounding will have to be done. Whenever possible, it's best to keep from doing any rounding until the very last step.) Notice that since Washington went a bit faster for the first portion of the race, it would make sense that Lincoln's speed would be a bit faster than Washington's for the second portion of the race. Our answer is reasonable.