Hi, I'm Greg. I'm a NYC tutor! I love helping students. I tutor many subjects, assist with homework help, etc. I mainly specialize in specialized tests.

As it turns out, I haven't been able to get to do as many livestreams as I have in past years (yet, hopefully that changes). Therefore, I thought it would be fun to start a Problem Of The Day Series. I will put up a problem and leave it running for a while. You guys will then analyze it, and come up with possible solutions and alternative solutions on your own. I'll eventually post the answer in some manner.

For now we'll play it by ear how that will happen and for how long I'll leave up a problem. But right now I'm thinking of keeping the problem up maybe 2 hours minimum and maybe even in some cases 4 or 5 hours depending upon the dynamics and my situation. Unlike my AMA (Ask Me Anything) lifestream sessions, I will not be checking in every few minutes although I may from time to time join into the discussion. Again, the idea is for you guys to discuss out the problem.

Please be respectful to each other in this endeavor and let's make this fun, educational and forward-thinking. Keep the comments within the spirit of what I'm doing here. Please email me at GregsTutoringNYC@gmail.com if needed.

HERE'S THE PROBLEM: <———
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After grabbing a croissant for a bite to eat at a local coffee shop, Mayor de Blasio walked to Prospect Park at 4 miles per hour. At some point he got hungry again and he returned to the same coffee shop for another croissant. He returned by the same route; he was really hungry for the additional croissant so he returned at a faster pace 6 miles per hour. What was de Blasio's average speed, in miles per hour, for the entire trip?

A) 4.8 B) 4.9 C) 5 D) 5.1

HERE'S THE SOLUTION:
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It's easy to think this is the average of 4 + 6 or 10/2 = 5. But that would be wrong.

distance = rate x time ala d = r x t .: r = d/t .: t = d/r

de Blasio's total distance is the distance from the coffee shop to the point where he gets hungry in Prospect Park plus the distance to return via the same route.
.: distance going + distance return = distance x 2

Similarly, he has two times, the time it took him to go from the coffee shop into Prospect Park at 4mph:

$$\text{time going} = \frac{\text{distance going}}{\text{rate going}} = \frac{\text{distance}}{4\text{mpg}}$$

And the time it took him to go from Prospect Park back to the coffee shop via the same route:

$$\text{time returning} = \frac{\text{distance returning}}{\text{rate returning}} = \frac{\text{distance}}{6\text{mph}}$$

$$\therefore \text{time overall} = \frac{\text{distance}}{4\text{mph}} + \frac{\text{distance}}{6\text{mph}}$$ so we'll use this below

This means his overall rate for the while trip is:

$$\text{rate overall} = \frac{\text{distance} \times 2}{\frac{\text{distance}}{4\text{mph}} + \frac{\text{distance}}{6\text{mph}}} = \frac{\text{distance} \times 2}{\frac{\text{distance} \times 6}{24\text{mph}} + \frac{\text{distance} \times 4}{24\text{mph}}} = \frac{\text{distance} \times 2}{\frac{\text{distance} \times 10}{24\text{mph}}} =$$

$$= \frac{\text{distance} \times 2 \times 24\text{mph}}{\text{distance} \times 10} = \frac{48\text{mph}}{5} = 4.8\text{mph}$$ Choice A

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