In problems that ask you to calculate total average speed, given the speed for onward and return trip, you could apply a formula or a neat trick to get to the answer faster. Lets derive the genral formula first and see how it applies it to couple of examples.

Say, a car travels at S1 mph on a trip and at S2 mph on return trip. What is its average speed for the entire trip?
Solution:
*** Don't fall in the trap of just averaging the 2 speeds. Overall average speed is not (S1+S2)/2. ***
Total average speed is simply = Total distance/Total time
Lets say,
D = distance travelled by the car in EACH direction
t1 = time spent on onward trip
t2 = time spent on return trip
Thus, the total distance travelled by the car = D+D= 2D
And, by the formula, Speed = Distance/Time
S1 = D/t1 => t1 = D/S1
S2 = D/t2 => t2 = D/S2
Total average speed = Total Distance/Total time = 2D/(t1+t2) = 2D/(D/S1+D/S2) = 2S1*S2/(S1+S2)

Remember this general formula for a total average speed problems:
Total average speed = 2S1*S2/(S1+S2)

Example:
A car travels at 60 mph on a trip and at 100 mph on return trip. What was its average speed for the entire trip?
Solution:
*** Total average speed is not (60+100)/2 = 80 ***
Total average speed = 2*60*100/(100+60) = 2*60*100/160 = 2*60*5/8 = 60*5/4 = 15*5 = 75

Alternatively, you may want to check if the following trick saves you some time.
Calculate the ratio of the speeds r1:r2. In our example it is 60:100 = 3:5
Then divide the difference between the speeds (s2-s1) by r1+r2 to get one part. In our example (100-60)/(3+5) = 5 is one part
The required answer is r1 parts away from the lower speed. That is, 60+r1*5 = 60+3*5 = 75 mph

Lets check how it works for S1=20 mph and S2=40 mph
Method 1:
Using the formula Total avg speed = 2S1*S2/(s1+s2)
= 2*20*40/(20+40)
= 2*20*40/60
= 80/3 = 26.67 mph
Method 2:
Ratio r1:r2 = 20:40 = 1:2
r1+r2 = 3
1 part = (S2-S1)/(r1+r2) = (40-20)/3 = 20/3 = 6.67
Total Avg speed is r1 parts away from smaller speed
Therefore avg speed = 20+ r1*6.67 = 20+1*6.67 = 26.67 mph

Average speed = total distance/total time taken = $3d/(d/x + d/y + d/z) = 3xyz/(xy+yz+zx)$

i.e. Harmonic mean of the individual speeds. You can extend the same to traveling in 4 different speeds and so on.