From Tuesday:

4. You flew round-trip from Detroit to Los Angeles. What is true about the distance traveled from Detroit to LA and the distance traveled on your return trip?

The distances are equal

Det to LA = LA to Det

5. You left the house on your bike. I left the house an hour later on my bike and finally caught you.

a) If we define t as the amount of time you were riding your bike then what expression would represent the amount of time I was riding my bike?

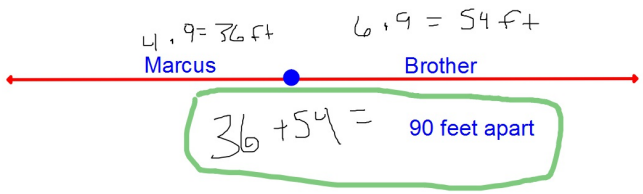
Since I waited an hour before I started biking
I will have traveled one less hour once I've caught you t - 1

b) What is true about the distance each of us traveled once I've caught up to you?

Distances are equal

Your distance = My distance

6. Marcus and his brother stood back-to-back. Marcus walked 4 ft/sec. Starting at the same time, his brother walked 6 ft/sec in the opposite direction. How far apart are they after nine seconds.



Same Direction Travel: NOTES

Two people leave from the same location. One leaves before the other.
The second person follows the same path as the first.
What is true once the second person catches up with the first person?

Their distances travled are EQUAL!

Same Direction Travel

Ann leaves her house traveling 50mph. Her mother leaves an hour later traveling at 55mph. How long does it take for Ann's mother to catch up with her?

Mom's time = $11 - 1 = 10$ hrs

What do you do with their distances? they are equal

	Distance =	Rate •	Time
Ann	$50t$ =	50 •	t
Mom	$55(t-1)$ =	55 •	$t-1$

$50t = 55(t-1)$

$50t = 55t - 55$

$-55t \quad -55t$

$-5t = -55$

$t = 11 \rightarrow$ Ann's Time

Round-Trip Travel:

You travel from one spot to another, then you return.
What is true about the distance you traveled each way?

The distances travled both ways are EQUAL!

Round-Trip Travel

You flew round-trip between Detroit and Los Angeles. The trip from Detroit to LA took 6 hours and you flew 80 mph slower than the trip from LA to Detroit which took 5 hours. Find the speed of the plane in each direction.

What do you do with their distances? they are equal

	Distance =	Rate •	Time
DTW to LA	$6(x-80)$ =	$x-80$ •	6
LA to DTW	$5x$ =	x •	5

$6(x-80) = 5x$

$6x - 480 = 5x$

$-6x \quad -6x$

$-480 = -x$

$480 = x$

LA to DTW = 480 mph DTW to LA = 480-80 = 400 mph.