Linear Equations: Expressions and Diagrams

1. Paul Bunyan Bike Trail runs through Chippewa National Forest in north central Minnesota. I began biking early, and by the time my friend, Benny, began biking, I was already at the 15 mile marker on the trail. If I am biking at a speed of 5 mph, and Benny is biking at a speed of 10 mph, how long will it take Benny to catch me, and at what mile marker will we meet?

a. 3 hours at the 30 mile marker
b. 5 hours at the 30 mile marker
c. 7 hours at the 70 mile marker
d. 3 hours at the 50 mile marker

2. Lilly was excited to get to school one morning, so she got up early and left before her brother Max. By the time he got started, she was already 4 blocks down the road. Their school is 12 blocks away from their house. Each block is 100 feet long. If Lilly walks at a speed of 2 blocks per minute, and her brother walks at a speed of $2\frac{1}{2}$ blocks per minute, will he catch her before she reaches the school? If not, where will Max be when Lilly gets there?

a. Yes, Max will get there at the same time as Lilly.
b. Yes, Max will beat her there .
c. No, Max will still be 2 blocks away from school when Lilly gets there.
d. No, Max will still be $4\frac{1}{2}$ blocks away from school when Lilly gets there.

3. Seth runs a six minute mile, and Darrell runs an eight minute mile. Seth started his run at mile marker 3 and Darrell started his run at mile marker 2. Which runner will reach mile marker 10 first?

a. Darrell at 60 minutes
b. Seth at 48 minutes
c. Darrel at 48 minutes
d. Seth at 42 minutes