1. We traveled for nine hours. Then we increased our velocity by 10 miles per hour and traveled an additional five hours. What was our original velocity if all together we have traveled 750 miles? $50 \ \dfrac{\text{mi}}{\text{hr}}$.

2. A bicycle leaves Chicago, heading East at $10 \ \dfrac{\text{mi}}{\text{hr}}$. Three hours later, a second bicycle leaves Chicago, heading East at $12 \ \dfrac{\text{mi}}{\text{hr}}$. How long will to take for the second bicycle to overtake the first bicycle? 15 hours after the second bicylce started.

3. Town A and town B are located 55 miles apart. A jogger starts in town A and jogs toward town B. At the same time, a bicycle starts in town B and travels toward town A. The difference between the speed of the jogger and that of the bicycle is 3 miles per hour. Find the speeds if the jogger and the bicycle meet exactly 5 hours after the start. The speed of the jogger is $4 \ \dfrac{\text{mi}}{\text{hr}}$ and that of the bicycle is $7 \ \dfrac{\text{mi}}{\text{hr}}$.

4. Ann headed south at 35 miles per hour. Two hours later Sue followed her, at 45 miles per hour. How long until Sue catches up with Ann? 7 hours.

5. The cop was chasing the crook who had a 100 ft head start. The velocity of the cop was 15 feet per second while that of the crook was 11 feet per second. How long until the cop catches up with him? 25 seconds.

6. A plane leaves an airport and flies south at 300 miles per hours. Later, a second plane leaves the same airport and flies south at 450 miles per hour. If the second plane overtakes the first one in 1 hour, how much earlier did the first plane leave? $\dfrac{1}{2}$ hr $= 30$ minutes earlier.

7. Chicago, IL and Montpelier, VT are about 1000 miles apart. A car leaves Chicago to Montpelier at the same time as a train leaves Montpelier for Chicago. The train is $50 \ \dfrac{\text{mi}}{\text{hr}}$ faster than the car. Find the speed of the car if it takes 5 hours until the train and car meet. $75 \ \dfrac{\text{mi}}{\text{hr}}$.

8. A bicycle leaves Chicago, heading East at $14 \ \dfrac{\text{mi}}{\text{hr}}$. Three hours later, a second bicycle leaves Chicago, heading East at $17 \ \dfrac{\text{mi}}{\text{hr}}$. How long will to take for the second bicycle to overtake the first bicycle? 14 hours

9. Milwaukee, WI and Albuquerque, NM are about 1500 miles apart. A plane leaves Milwaukee to Albuquerque at the same time as a train leaves Albuquerque for Milwaukee. The plane is $330 \ \dfrac{\text{mi}}{\text{hr}}$ faster than the train. Find the speed of the plane if it takes 3 hours until the plane and train meet. The speed of the train is $85 \ \dfrac{\text{mi}}{\text{hr}}$ and that of the plane is $415 \ \dfrac{\text{mi}}{\text{hr}}$.