Using a Frame of Reference to Describe Motion

Directions: Motion is a change in position relative to a frame of reference or reference point. Use your understanding of a frame of reference to answer the following questions.

1. Baseball Game

A. Imagine you are the batter at the plate and describe what you see as the ball leaves your bat towards straight-away center, shortly after it is thrown toward the plate. Your body is the frame of reference.

B. Imagine you are the pitcher on the opposing team and describe the same scene, using your body as the frame of reference.

C. Imagine you are a fan sitting in the section directly to the right of first base and describe the same scene, using your body as the frame of reference.
2. Sidewalk

A. Imagine you are a pedestrian waiting on the sidewalk to be picked up (Position A) and you notice a sports car speed down the street. In detail, describe the motion of the car as it passes you.

B. Imagine you are a pedestrian on the opposite side of the street (Position B). In detail, describe the motion of the car as it passes you.

C. What frame of reference is used to help describe what you see from Positions A and B? Explain your reasoning.

3. Create your own scenario, with visual, and describe what you see based on a particular frame of reference.

Frame of Reference - ____________________