

Intellectual Need Task for Approximating Instantaneous Rates of Change

Below is a picture of a baseball player trying to hit a baseball. A typical pitch travels from the pitcher's mound to home plate in 0.4 seconds. In a standard baseball field, the distance from the pitcher's mound to home plate is 60 feet, 6 inches.



At the moment the photo was taken, how fast was the baseball traveling?

1. 60.5 feet divided by 0.4 seconds (151.25 feet per second)
2. Less than 151.25 feet per second, because the ball was slowing down
3. Greater than 151.25 feet per second
4. You can't tell without more information
5. The ball isn't moving in the photo, so it technically has no speed