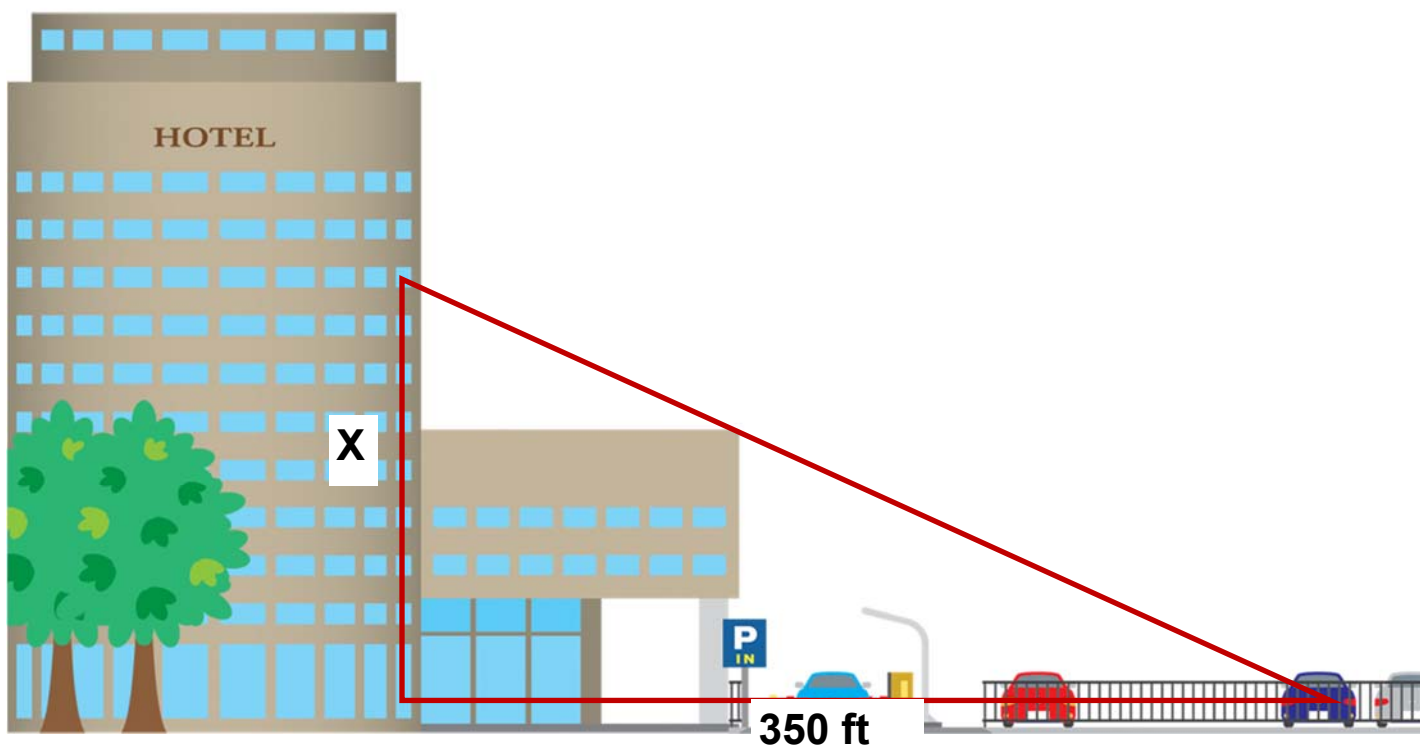


# Trajectory Scenario

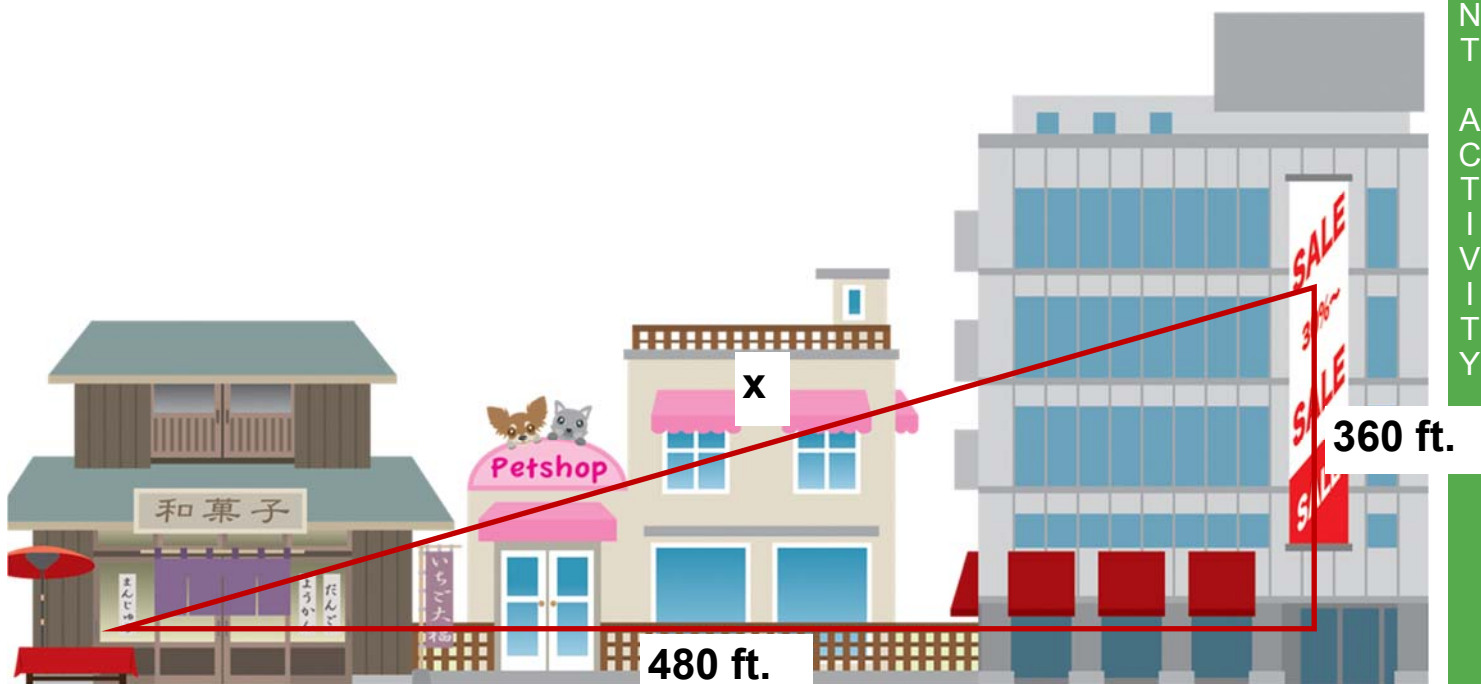
## Directions:

Using the image and the scenario provided, determine the trajectory the bullet traveled. Drawings are not to scale. Show all work.



1. A bullet from a sniper struck and killed a controversial political figure who was waiting in a nearby car as a passenger. Crime scene investigators are unsure what floor of the building the shot came from. The first floor of the hotel is 25 ft. high. Each subsequent floor is 15 ft. tall. Using the measurements from the scene, determine what floor of the building the shooter came from.

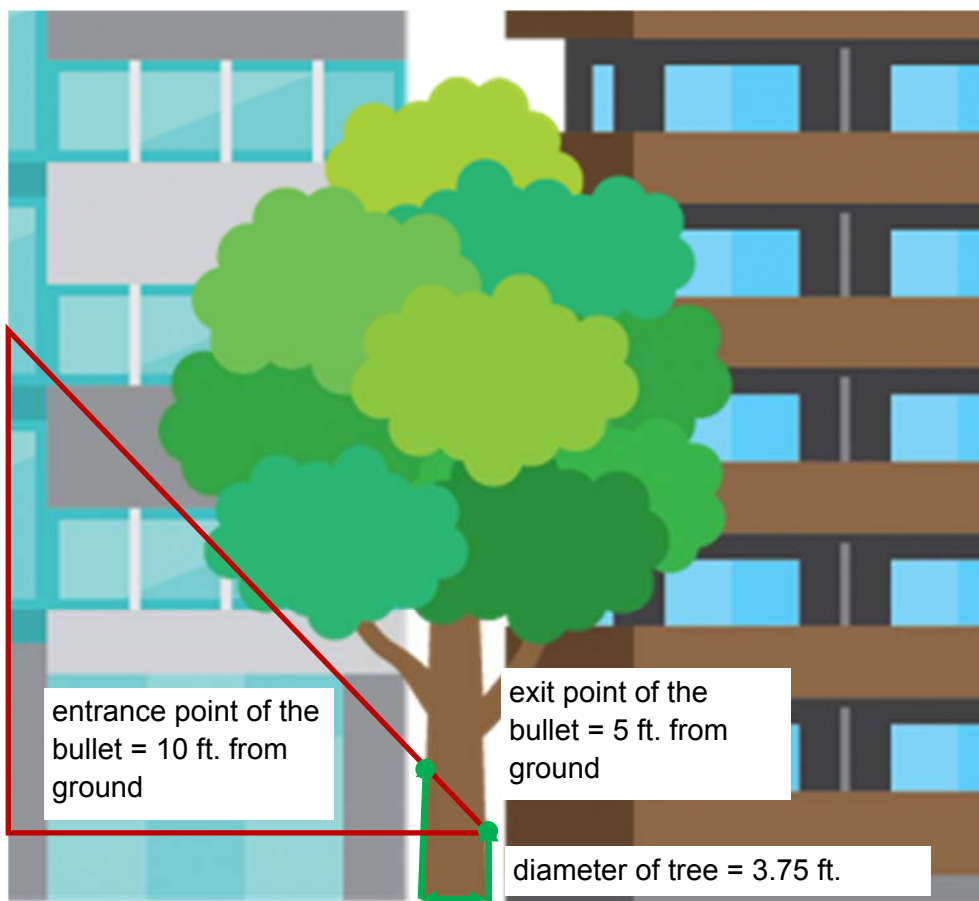
# Trajectory Scenario



2. There was an unusual stabbing at a local restaurant after two patrons got into a disagreement. One patron shot an unknown gun twice, one bullet struck the victim and the other bullet struck the sale sign of a nearby retail store. Using the security cameras from across the street, forensic analysts determined the gun was shot and half a second later it struck the sign. Forensic analysts want to determine the velocity of the bullet using the measurements on the scene from the stray bullet to help determine the type of gun used to convict the shooter. Velocity is calculated as distance over time, and should be in meters per second. Round to the nearest hundredth when necessary.

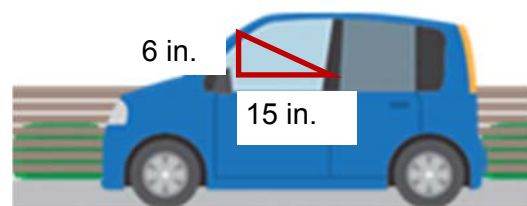
# Trajectory Scenario

3. Several shots were fired during a concert downtown. The performing musician received minor injuries, and no one else was injured. The musician is now suing the city for not providing proper security for the event. The musician has had financial trouble after leaving a successful boyband, and there are rumors that the musician organized the shooting so he could collect money from the lawsuit. A tree near the stage was found with several bullet holes, and it was



determined the shots could not have come from the crowd. The musician owns the penthouse in the apartment building in front of the concert venue, so forensic analysts want to determine if the shots could have come from there. The penthouse is on the sixth floor, which is 85 feet from the ground. The building is 60 feet from the tree. Using the measurements from the crime scene, show your math to determine if the shooter came from the penthouse.

# Trajectory Scenario



4. A reporter was shot while driving a moving car. Investigators are unsure if the shooting was random or if it was a targeted attack. A tree blocks the visibility of the street after

65 feet, and would likely have been a random attack if the car was farther away when hit. Because the car continued to move after the driver was struck, investigators need to determine the distance the car was away from the building when the shot occurred. Use the information provided to determine the distance of the car.