

Q3.10



A projectile is launched at a 30° angle above the horizontal. Ignore air resistance. The projectile's acceleration is greatest

- A. at a point between the launch point and the high point of the trajectory.
- B. at the high point of the trajectory.
- C. at a point between the high point of the trajectory and where it hits the ground.
- D. misleading question — the acceleration is the same (but nonzero) at all points along the trajectory
- E. misleading question — the acceleration is zero at all points along the trajectory

4-5: A flare is dropped from an airplane flying at uniform velocity (constant speed in a straight line). Neglecting air resistance, the flare will

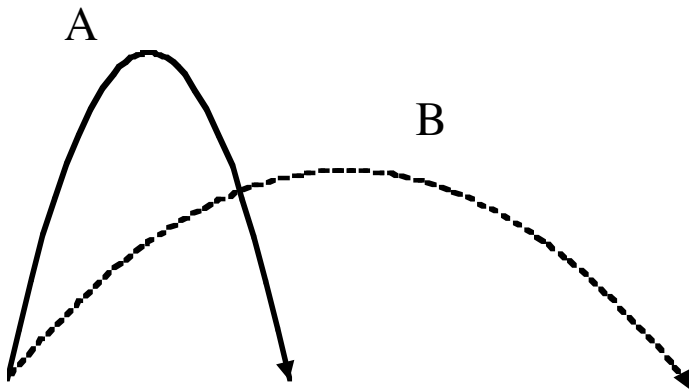
A: quickly lag behind the plane

B: remain vertically under the plane

C: move ahead of the plane

D: it depends how fast the plane is flying.

4-2: Two pitchers are standing side by side, and simultaneously throw baseballs A and B. If the balls follow the parabolic trajectories shown, which ball hits the ground first?



- A: A
- B: B
- C: both hit at the same time
- D: need more information

Q3.9



A zoo keeper fires a tranquilizer dart directly at a monkey. The monkey lets go at the same instant that the dart leaves the gun barrel. The dart reaches a maximum height P before striking the monkey. Ignore air resistance.

When the dart is at P , the monkey

- A. is at A (higher than P).
- B. is at B (at the same height as P).
- C. is at C (lower than P).
- D. not enough information given to decide

