

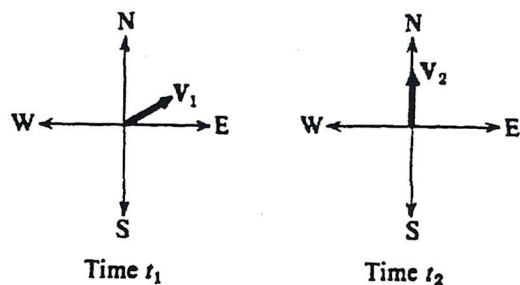
5. An object released from rest at time $t = 0$ slides down a frictionless incline a distance of 1 meter during the first second. The distance traveled by the object during the time interval from $t = 1$ second to $t = 2$ seconds is

(A) 1 m
 (B) 2 m
 (C) 3 m
 (D) 4 m
 (E) 5 m

6. Two people are in a boat that is capable of a maximum speed of 5 kilometers per hour in still water, and wish to cross a river 1 kilometer wide to a point directly across from their starting point. If the speed of the water in the river is 5 kilometers per hour, how much time is required for the crossing?

(A) $\frac{1}{20}$ hr
 (B) $\frac{1}{10}$ hr
 (C) 1 hr
 (D) 10 hr

- (E) The point directly across from the starting point cannot be reached under these conditions.



7. Vectors V_1 and V_2 shown above have equal magnitudes. The vectors represent the velocities of an object at times t_1 and t_2 , respectively. The average acceleration of the object between time t_1 and t_2 was

(A) zero
 (B) directed north
 (C) directed west
 (D) directed north of east
 (E) directed north of west

8. A projectile of mass M_1 is fired horizontally from a spring gun that is initially at rest on a frictionless surface. The combined mass of the gun and projectile is M_2 . If the kinetic energy of the projectile after firing is K , the gun will recoil with a kinetic energy equal to

(A) K
 (B) $\frac{M_2}{M_1} K$
 (C) $\frac{M_1^2}{M_2^2} K$
 (D) $\frac{M_1}{M_2 - M_1} K$
 (E) $\sqrt{\frac{M_1}{M_2 - M_1}} K$