

6. Two objects are dropped from rest in the absence of air friction. The second object is released one second after the first object is released. Consequently the distance separating them as they fall
- A) does not change
 - B) decreases
 - C) increases
 - D) may increase or decrease depending on the relative masses of the objects
 - E) may increase, decrease, or remain the same depending on the relative masses of the objects
7. To determine the height of a football stadium, Aaron climbs to the top of the stadium and drops a rock. When releasing it, he starts counting, "one Mississippi, two Mississippi, three Mississippi..." until he sees the rock hit the ground. How high would you estimate a "3 Mississippi" high stadium to be? (Neglect air friction, one Mississippi is one second)
- A) 15 m
 - B) 20 m
 - C) 30 m
 - D) 45 m
 - E) 60 m
8. To analyze the motion of an object, displacement is plotted on the vertical axis and time is plotted on the horizontal axis. Constant acceleration on the displacement vs. time graph produces a curve that is
- A) half a parabola opening up along the horizontal axis
 - B) a straight line coming out of the origin
 - C) a straight line parallel to the horizontal axis
 - D) a straight line parallel to the vertical axis
 - E) half a parabola opening up along the vertical axis
9. The area under the curve on a velocity vs. time graph for an object undergoing uniform acceleration is
- A) displacement
 - B) speed
 - C) velocity
 - D) acceleration
 - E) position
10. On a velocity vs. time graph, the slope of the tangent line to the curve at any point is
- A) average position
 - B) average velocity
 - C) instantaneous velocity
 - D) average acceleration
 - E) instantaneous acceleration