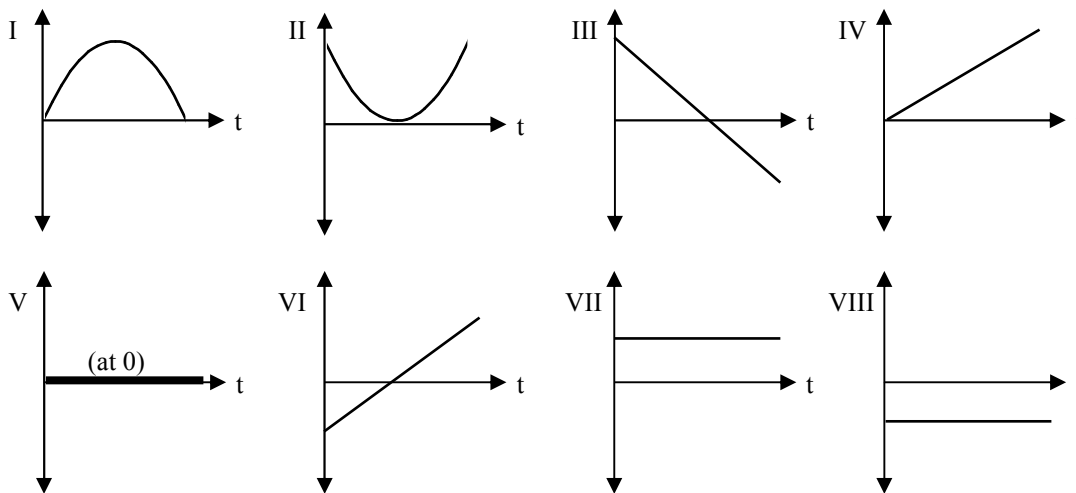
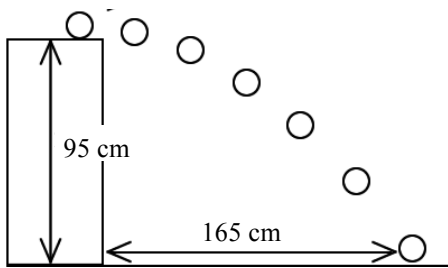


PreAP Two Dimensions 14

1. A rock is launched from a sling shot going 15 m/s at 65°. The ceiling is 10 m tall.
 - A. * Does it hit the ceiling? (*Wouldn't you agree that you might want to know how high the rock goes?*)
 - B. * Solve for the time to the top of the arch.
 - C. Now that you have the time, in the x-direction solve for how far in the x-direction the top of the arch is.

2. * A ball rolls off of a 95 cm tall table. It lands 165 cm away. How fast was it rolling along the table before it rolled off? (*Work in meters.*)



3. Consider a projectile launched from the ground to the ground. Which of the above graphs would portray:

A. ___ The y direction acceleration.	D. ___ Vertical position (ground to ground)
B. ___ The horizontal position.	E. ___ V_y (vertical velocity)
C. ___ a_x (x acceleration)	F. ___ V_x (horizontal velocity)
4. What is the slope of Graph III?
5. What is the slope of Graph IV?
6. When Graph III crosses the x-axis, where is the projectile?

1A) $\Delta y = 9.4$ m, so does NOT hit the 10 m ceiling.

1B) $t = 1.39$ sec

2) 3.75 m/s