Y-Axis Motion

Physics 513

Let's Give This One a Go!

- You throw a ball vertically upward from the roof of a tall building. The ball leaves your hand at a point even with the roof railing with an upward velocity of 15.0 m/s; the ball is then in free fall. On its way back down, it just misses the railing. Find (a) the ball's position and velocity 4.00 s after leaving your hand; (b) the ball's velocity when it is 5.00 m above the railing; (c) the maximum height reached; (d) the ball's acceleration when it is at its maximum height

Here Goes a Humdinger

- A flowerpot falls off a windowsill and falls past the window below. You may ignore air resistance. It takes the pot 0.420 s to pass from the top to the bottom of this window, which is 1.90 m high. How far is the top of the window below the windowsill from which the flowerpot fell?

What Says You?

- From the top of a tall building you throw one ball straight up with speed v_0 and one ball straight down with speed v_0.
- (a) Which ball has the greater speed when it reaches the ground?
- (b) Which ball gets to the ground first?
- (c) Which ball has a greater displacement when it reaches the ground?
- (d) Which ball has traveled the greater distance when it hits the ground?