

**Kinematics Word Problems**  
**Worksheet #1**

---

1. A skier starts down a slope 0.50 km [down] long at a velocity of 4.0 m/s [down]. If he accelerates at a constant rate of  $2.0 \text{ m/s}^2$  [down], find his velocity at the bottom of the slope.
  
2. Pressing on the brake pedal slows a car down from a velocity of 35 m/s [E] to 20 m/s [E] in 8.0 s. Assuming that the acceleration is uniform, what is the displacement of the car?
  
3. A sports car starts from rest and has a uniform acceleration of  $1.2 \text{ m/s}^2$  [N].
  - a) What is its velocity after 30 s?
  - b) How far does it go in that time?
  
4. An object dropped from a balloon descending at 4.0 m/s [down] lands on the ground 10 s later. What was the altitude of the balloon at the moment the object was dropped? (use  $a_g = 9.8 \text{ m/s}^2$  [down])
  
5. A car travelling along a highway must uniformly reduce its velocity to 15 m/s [N] in 3.5 s. If the displacement travelled during that time interval is 70 m [N], what is the car's average acceleration? What is its initial velocity?

Scan the code below for the solutions.

