

Name: _____

Date: _____ Block: _____

Solving Kinematics Problems

When solving kinematics problems, we will use the following formulas:

A racing car reaches a speed of 42 m/s. It then begins a uniform negative acceleration, using its parachute and braking system, and comes to rest 5.5 s later. Find the distance the car travels during breaking.

A plane starting at rest at one end of a runway undergoes a uniform acceleration of 4.8 m/s^2 for 15 s before takeoff. What is the speed at takeoff? How long must the runway be for the plane to be able to take off?

A person pushing a stroller starts from rest, uniformly accelerating at a rate of 0.500 m/s^2 . What is the velocity of the stroller after it has traveled 4.75 m?

When Maggie applies the breaks of her car, the car slows uniformly from 15.0 m/s to 0.0 m/s in 2.50 s. How many meters before a stop sign must she apply her breaks in order to stop at the sign?

A car with an initial speed of 6.5 m/s accelerates at a uniform rate of 0.92 m/s^2 for 3.6 s. Find the final speed and the displacement of the car during this time.

A car accelerates uniformly in a straight line from rest at the rate of 2.3 m/s^2 . What is the speed of the car after it has traveled 55 m? How long does it take the car to travel 55 m?