

Acceleration WS#2: Calculations

Skill Sheet 4.1

Acceleration Problems

Directions: Solve the following problems using proper FGES format.

Make sure to show all of your work (SHOW the "plug and chug") and circle or box in your final answers!

1. Solving acceleration problems

1. A biker goes from a speed of 0.0 m/sec to a final speed of 25.0 m/sec in 10 seconds. What is the acceleration of the bicycle?

2. A skater increases her velocity from 2.0 m/sec to 10.0 m/sec in 3.0 seconds. What is the acceleration of the skater?

3. While traveling along a highway a driver slows from 24 m/sec to 15 m/sec in 12 seconds. What is the automobile's acceleration? (Remember that a negative value indicates a slowing down or deceleration.)

4. A parachute on a racing dragster opens and changes the speed of the car from 85 m/sec to 45 m/sec in a period of 4.5 seconds. What is the acceleration of the dragster?

2. Solving for other variables

1. A cart rolling down an incline for 5.0 seconds has an acceleration of 4.0 m/sec^2 . If the cart has a beginning speed of 2.0 m/sec, what is its final speed?

2. A car accelerates at a rate of 3.0 m/sec^2 . If its original speed is 8.0 m/sec, how many seconds will it take the car to reach a final speed of 25.0 m/sec?

3. A car traveling at a speed of 30.0 m/sec encounters an emergency and comes to a complete stop. How much time will it take for the car to stop if its rate of deceleration is -4.0 m/sec^2 ?

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