

1. A car with a velocity of 22 m/s is accelerated uniformly at the rate of 1.6 m/s² for 6.8 s. What is its final velocity?

2. Light travels in a straight line at a constant speed of 3.0×10^8 m/s for 4.1 years to reach the earth from the nearest star 3.9×10^{13} km away. What is its acceleration?

3. A boy sliding down a hill accelerates at 1.40 m/s². If he started from rest, in what distance would he reach a velocity of 7.00 m/s?

4. What is the acceleration of a plane that changes velocity from 75 m/s to 140 m/s in 15s? How far does a plane fly during that time?

5. If a bullet leaves the muzzle of a rifle with a speed of 600 m/s, and the barrel of the rifle is 0.9 m long, at what rate is the bullet accelerated while in the barrel?
6. A car is traveling at a velocity of 22 m/s when the driver puts on the brakes to decelerate it at 1.4 m/s^2 over a distance of 110 m. What is the car's velocity at the end of this distance?
7. A ball, originally at rest, undergoes a constant acceleration of 0.76 m/s^2 . How long does it take the ball to travel 4.8m?
8. You are driving your car down a straight road at a constant speed of 23 m/s (about 50 mi/h). What is your acceleration? _____
- Suddenly you see a stalled school bus across the road ahead. It takes you 0.75 s to react and put on the brakes. How far does the car move during this time?
 - When you apply the brakes, the car decelerates at 6.2 m/s^2 . How far does the car travel until it comes to a stop?
 - If the bus is 62 m away, will you be able to stop before hitting it?