

SHOW YOUR WORK

1. A roller coaster's velocity at the top of the hill is 10 m/s. Two seconds later it reaches the bottom of the hill with a velocity of 26 m/s. What is the acceleration of the coaster?
2. A roller coaster is moving at 25 m/s at the bottom of a hill. Three seconds later it reaches the top of the hill moving at 10 m/s. What was the acceleration of the coaster?
3. A swimmer speeds up from 1.1 m/s to 1.3 m/s during the last 20 seconds of the race. What is the acceleration of the swimmer?
4. A car's velocity changes from 0 m/s to 30 m/s in 10 seconds. Calculate acceleration.
5. A satellite's original velocity is 10,000 m/s. After 60 seconds it's going 5,000 m/s. What is the acceleration?
6. A car goes from a stop to 30 km/s in 25 seconds. What is the acceleration?
7. If a speeding train hits the brakes and it takes the train 39 seconds to go from 54.8 m/s to 12 m/s what is the acceleration?
8. (Be careful!) How long will it take a car to go from 0 to 44 km/hr if they are accelerating at 5 km/hr²?
9. (Be careful!) How many minutes will it take a car to go from a stop to 33 km/hr if it accelerates at 10 km/hr²?
10. Calculate acceleration of a turtle going from 0.3 m/s to 0.7 m/s in 30 seconds.