



1. What is the average speed of a cheetah that runs 88 meters in 5 seconds?
2. What is the average acceleration of a car that goes from rest to 60 km/h in 8 seconds?
3. A coconut falls from a tree and lands on the jungle floor. If the nut fell for 1.4 seconds, how fast was it traveling when it hit?
4. A rock falls off a cliff into the ocean. It takes the rock 4.75 seconds to splash down. How far down was the water?
5. If a car was accelerating at 3 m/s^2 and had a change in speed of 60 m/s, how long did it take the car to reach that top speed?
6. A cliff jumper dove into the ocean to impress some tourists. He was clocked hitting the water at 37 m/s. How long did it take him to hit the water?

Chapter 2: Free Fall

Problem Set #2



1. An object, initially at rest, falls freely near the earth's surface. How long does it take the object to reach a speed of 98 m/s?
2. A rock is dropped from a cliff. Approximately how long does it take to fall a distance of 45 m?
3. What is the speed of a rock, initially at rest, that has fallen 66 m near the earth's surface?
4. An astronaut drops a rock from rest on the Moon's surface. How far will the rock fall in 2.0 s? *Acceleration due to gravity on the Moon is 1.6 m/s^2 .*
5. A student drops an object from the top of a building which is 19.6 m high. How long does it take the object to fall to the ground?
6. An object is allowed to fall freely near the surface of a planet. The object falls 54 m in the first 3 s. The acceleration due to gravity on that planet is what?