

Name _____ Date _____ Period _____

Acceleration Practice Problems

Remember:

$$\text{Acceleration} = \frac{\text{Velocity}_{(\text{Final})} - \text{Velocity}_{(\text{Initial})}}{\text{Time}}$$

1. Rob is really bored one Saturday night and goes outside to study the nocturnal habits of mice in a hayfield. He sees a mouse sniffing along at 0.1 m/s. but it hears and starts to scurry for safety. In just 3.7 s it accelerates to 0.9 m/s. Find its acceleration.
2. Instead of doing his work, John throws a pencil at Mary. After just 0.2 s, it is moving at 10.4 m/s. Find its acceleration.
3. Stewart and Matt decide to take the train to the Grand Canyon. The train starts from rest and reaches a speed of 54 km/h in 10 s. Find its acceleration.
4. During his experiment, Devin finds that his rocket starts from rest and accelerates to a speed of 220 km/h in 22 s. What is the acceleration?
5. Over the past winter, Andrew decides to slide down a giant hill on a toboggan. Calculate the acceleration of the toboggan that reaches a velocity of 32 m/s in 8 s.
6. While participating in the "Tractor Race Finals", Rob accelerates his tractor from rest to a speed of 18 m/s in 6 s. What is Rob's acceleration?
7. Christina is printing her homework for science class and doesn't want to miss her bus. Running out the door at an impressive 18 m/s, she realizes that the bus is pulling away and she can't make it. She slows down and stops in 4.5 s. Calculate her acceleration.

Hard

(Worth an extra point on the quiz!)

An airplane comes in for a landing at JFK International Airport. The plane descends until the rear wheels touch the runway. At this point the plane travels 8 meters in 0.04 seconds. The pilot throws the engines in reverse for two-thirds of a minute until the plane is moving 3 meters in .0125 minutes. Calculate the planes acceleration.