1. Find the uniform acceleration that causes a car’s velocity to change from 32 m/s to

96 m/s in an 8.0 s period.

1. Rocket-powered sleds are used to test the responses of humans to acceleration. Starting from rest, one sled can reach a speed of 444 m/s in 1.8 s. Find the acceleration of the sled.
2. A car with a velocity of 22 m/s is accelerated uniformly at the rate of 1.6m/s2 for 6.8 s. What is the final velocity?
3. A supersonic jet flying at 145 m/s is accelerated uniformly at a rate of 23.1 m/s2 for

20.0 seconds. What is its final velocity?

1. The speed of sound in air is 331 m/s. How many times the speed of sound is the plane’s final speed?
2. How far does a plane fly in 15 s while its velocity is changing from 145 m/s to 75 m/s at a uniform rate of acceleration?
3. A stone falls freely from rest for 8.0 s.
4. Calculate the stone’s velocity after 8.0 s.