11.2 Worksheet

Name______________________________

$$a = \frac{V_f - V_i}{t}$$

1. A car starts from rest and accelerates uniformly to a speed of 52.3 m/s over a time of 5.21 seconds. Determine the acceleration of the car.
   (equation) (numbers and units) (answer)

   a=

   V_f =

   V_i =

   t =

2. A race car accelerates uniformly from 18.5 m/s to 46.1 m/s in 2.47 seconds. Determine the acceleration of the car.

3. A feather is dropped on the moon from a height of 1.40 meters. The acceleration of gravity on the moon is 1.67 m/s^2. Determine the time for the feather to fall to the surface of the moon if the feather has a velocity of 2.15 m/s right before it hits the moon.

4. Rocket-powered sleds are used to test the human response to acceleration. If a rocket-powered sled is accelerated from rest to a speed of 444 m/s in 1.83 seconds, then what is the acceleration?

5. A car traveling at 22.4 m/s skids to a stop in 2.55 s. What is the acceleration of the car?

6. It was once recorded that a Jaguar running at 47.6 m/s skidded to a stop and left marks that were 290 m in length. Assuming that the Jaguar skidded to a stop with a constant acceleration of -3.90 m/s^2, how long did it take the Jaguar to stop?