

Wkst: Calculating Acceleration 2

Name: _____

1. An airplane starts at rest and accelerates down the runway for 20 s. at the end of the runway, its velocity is 80 m/s north. What is its acceleration? (L2)
2. A cyclist pedals from a stop to a velocity of 10 m/s south in 20 s. What is the cyclists' acceleration? (L2)
3. The "street" automobile with the greatest acceleration is the *Tempest*. It has an acceleration of 6.89 m/s^2 . Suppose the car accelerates from rest to a final speed of 96.5 m/s. how long does it take the *Tempest* to reach this speed? (L2)
4. A ship has engines capable of an acceleration of -0.357 m/s^2 to stop. If the ship approaches the dock at a speed of 16.98 m/s, how much time does the ship need to stop? (L2)
5. A ball is dropped and falls with an acceleration of 9.8 m/s^2 downward. It hits the ground with a velocity of 49 m/s. How long did it take the ball to fall to the ground? (L2)
6. A golf ball is thrown downward from the roof of the Sears Tower. The golf ball accelerates at 9.8 m/s^2 and lands on the pavement after 9.2 s. If the ball's final speed is 93.0 m/s, what was the initial speed of the ball when it was thrown?