

Chpt 5 rev 5

Acceleration Problems

1. A physics sprinter starts from rest and accelerates to 15 km/hr in 5.0 m. What is the acceleration? B) What deceleration does the sprinter experience if she falls and comes to rest in 0.85 m?
2. A ball is thrown upward at 65 km/hr. a) How high does the ball go?...b) How long does it take for the ball to reach the top of its flight?
3. A walnut falls from a tree that is 25 m high. A) What velocity does the walnut reach just before it hits the ground?.....b) How long does it take to hit?
4. A dedicated physics kid is driving at 71 km/hr and slows to 53 km/hr in 0.88 s. a) What acceleration does the car experience?...b) How far does the car travel during this time?.....c) What velocity does the car have after 0.50 s of the deceleration?
5. My arrow leaves by bow at 85 m/s. a) What is the acceleration of the arrow in the bow if the draw length is 0.95 m? b) How high would the arrow go if I shot it straight up?.....c) How long would it be in the air?
6. What acceleration does a bullet experience if it reaches 375 m/s at the end of a 0.950 m barrel?.....b) How far does the bullet go once it leaves the barrel if it is in the air 0.505 s?.....c) What deceleration does the bullet experience in the air if it slows to 345 m/s just before it hits the ground?