

Worksheet 7.3 - Kinetic Energy

1. A 3.0 kg ewok is traveling at a constant speed of 7.5 m/s. What is its kinetic energy?

5. An 8.0 kg bantha poodoo is dropped from a height of 7.0 m. What is the kinetic energy of the poodoo just before it hits the ground? (No kinematics!)

2. The kinetic energy of a 20.0 N droid is 5.00×10^2 J. What is the speed of the droid?

6. A 9.00 kg object falls off of a 1.2 m high table. If all of the objects potential energy is converted into kinetic energy just before it hits the floor, how fast is it moving? (Solve without using kinematics)

3. A 10.0 N lightsaber is accelerated from rest at a rate of 2.5 m/s^2 . What is the kinetic energy of the lightsaber after it has accelerated over a distance of 15.0 m.

7. Solve #6 using kinematics this time. Is there any difference?

4. A 1200.0 N Wookiee jumps off a cliff on Earth. What is its kinetic energy after it falls for 4.50 s?

8. A golfer wishes to improve his driving distance. Which would have more effect:
(a) *doubling the mass* of his golf club or
(b) *doubling the speed* with which the clubhead strikes the ball?
Explain your answer.