

HW 1.3 – Froghopper

Name:

Reading

College Physics pages 33 → 40 (Kinematic equations and examples)

Conceptual Question

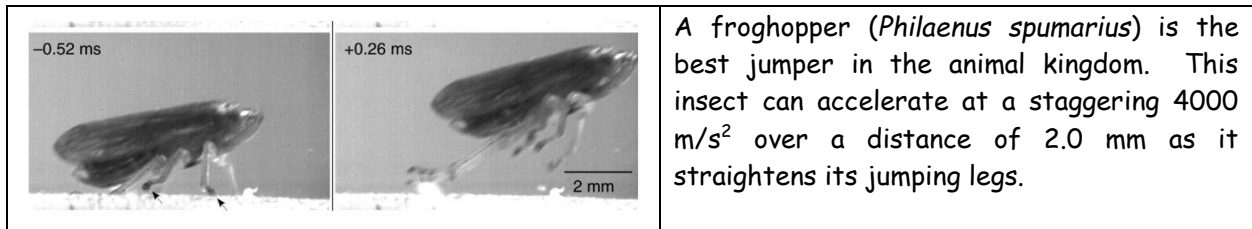
A ball is thrown vertically upwards. A) What are its velocity and acceleration when it reaches its maximum height? What is the acceleration just before it hits the ground? (2)

Multiple Choice (1 for circling the correct answer, 1 for reasoning)

A ball is thrown straight downwards with a speed of 0.5 m/s from a height of 4.0 m. What is the speed of the ball 0.7 s after the release?

- A) 0.5 m/s
- B) 7.4 m/s
- C) 9.8 m/s
- D) 15 m/s
- E) 20 m/s

Free Response



- a) Assuming that the acceleration is uniform, what is the velocity of the froghopper after it has accelerated through this short distance, and how long did it take to reach that velocity? (3)

- b) Neglecting air resistance, how high would the froghopper be able to jump? (3)