HW 1.3 – Up and Down

Name: .....

Reading (actually watching…)

Watch the YouTube video on Position, Velocity and Acceleration by Bozeman Science (can be found on website or https://www.youtube.com/watch?v=mXbKlYSEvF8.)

Conceptual Question

Two students are having an argument about their bikes. Outline an experiment that you could carry out to determine which has the greatest average acceleration over the first 5 seconds. (3)

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

An astronaut drops a hammer and a feather on the Moon. If they both fall 6.0 m vertically in 2.7 seconds, what is the acceleration due to gravity on the Moon?

A) 1.6 m/s^2
B) 2.2 m/s^2
C) 4.4 m/s^2
D) 6.0 m/s^2
E) 10 m/s^2

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

A bike going down a highway at 15.0 m/s accelerates to a speed of 21.0 m/s in 12.0 seconds. How far did the car travel in this time?

A) 36.0 m
B) 180 m
C) 216 m
D) 252 m

Free Response

A stone is thrown straight upwards at 20 m/s.

a) How high does it go? (2)

b) Someone catches the stone on the way down at a point 5.0 m above where it was thrown. How fast was it going when it was caught? (3 – of which 1 mark will be for a good diagram….)