

Name _____

Chapter 3: Horizontally launched Projectiles – Summary

The Return of Splat

Directions: Answer the following questions showing all work. You will be graded for each question according to the following rubrik.

1 pt – Writing Correct Equation (original or rearranged)

1 pt – Plugging Numbers into equation

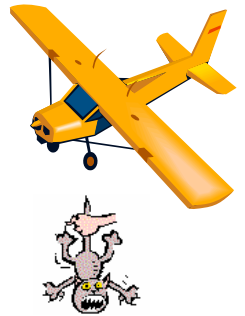
1 pt – Inclusion of Units on all numbers

2 pt – Correct Final Answer

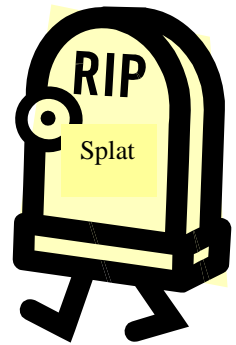
5 pts total per question (part)

1. A plane is moving at 300 m/s and drops Splat to his death. If it takes 36 seconds for Splat to hit the ground:

(a) What was the planes height?



(b) If a person went looking for Splats carcass, how far from the original drop point would he/she have to look?



(c) What was Splats final velocity before he went Splat?

2. Due to the fact that Splat has 9 lives, he is seen wandering the hills of Forestville. Splat, being a little disorientated from being thrown out of a plane, falls off a 40 m high cliff. If Splat's remains are found 10 m from the cliff,

(a) How long could an observer hear the MEOW!!!! coming from poor Splat?

(b) How fast was splat moving just before he ran off the cliff?

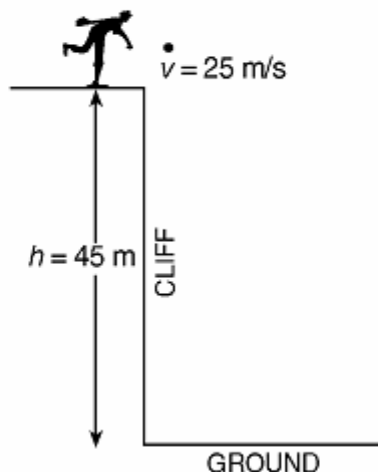
3. A red ball and a green ball are simultaneously thrown horizontally from the same height. The red ball has an initial speed of 40. meters per second and the green ball has an initial speed of 20. meters per second. Compared to the time it takes the red ball to reach the ground, the time it takes the green ball to reach the ground will be

- a) Twice as much
- b) half as much
- c) four times as much
- d) the same

4. A ball is thrown horizontally from the top of a building with an initial velocity of 15 meters per second. At the same instant, a second ball is dropped from the top of the building. The two balls have the same

- A) initial vertical velocity
- B) path as they fall
- C) final velocity as they reach the ground
- D) initial horizontal velocity

5. The diagram below shows a student throwing a baseball horizontally at 25 meters per second from a cliff 45 meters above the level ground.



Approximately how far from the base of the cliff does the ball hit the ground? [Neglect air resistance.]

- A) 75 m
- B) 45 m
- C) 140 m
- D) 230 m