Physics 112

Friday, October 13/17

http://mvhs.nbed.nb.ca/

http://mvhs-sherrard.weebly.com/

---

1. Questions? Worksheet: Motion Problems

2. Freely Falling Bodies - Continue

3. Worksheet - Freely Falling Bodies

4. SA: U1- S3 -> Topics (see Next Page)
   -> Format: Word Problems
   -> Wednesday at the earliest

SA: U1- S3 -> Topics

1. types of motion - uniform motion and uniformly accelerated motion
2. use the relationship between the directions of velocity and acceleration to determine the motion of an object
3. word problems - solve using checklist to obtain full value
   - uniform motion - 1 formula
   - uniformly accelerated motion - 4 formulas
   - quadratic formula
4. acceleration due to gravity - symbol -> $\vec{g}$
   - on Earth $\vec{g} = -9.80\ m/s^2$
   - assuming no air resistance when working with freely falling bodies

Physics 112
Chapter 3 (MHR)
Motion Problems – Free Fall

1. A stone dropped from a cliff hits the ground 4.00 s later.
   a) Find the velocity with which the stone hit the ground.
   b) How far did the stone fall?

2. If an apple is dropped from the roof of an apartment building, how long will it take the apple to attain a velocity of 62.3 m/s?

3. An object falls to the floor from a shelf 3.0 m high. With what velocity does the object strike the floor?

4. A bullet shot vertically upward, has an initial velocity of 608 m/s.
   a) How long does it take before the bullet stops rising?
   b) What is the maximum height reached by the bullet?

5. A stone dropped from a hot air balloon descending at 3.8 m/s lands on the ground 12 s later. How high above the ground was the hot air balloon when the stone was dropped?

6. Fizzicks drops a bowling ball from his tree house to the ground 10.0 m below. With what velocity does the bowling ball hit the ground?

7. A ball thrown vertically upward returns to the hand of the thrower 5.00 s later. How high did the ball go?

8. A student drops a textbook out of the window of his classroom. After falling 1.9 m, it passes the top of a 0.76 m high window on a lower floor. How long does it take the textbook to travel the height of the window?

In your word statements, use direction names or symbols instead of signs.

1. a) The final velocity was –39.2 m/s.
   b) It fell 78.4 m (-78.4 m).
2. It will take 6.36 s.
3. The object will strike the floor with a velocity of –7.7 m/s.
4. a) It takes 62.0 s.
   b) It reaches a maximum height of 1.89×10^4 m.
5. Since the stone fell 7.5×10^2 m, the hot air balloon was 7.5×10^2 m above the ground when the stone was dropped.
6. It hits the ground with a velocity of –14.0 m/s.
7. The ball traveled 30.6 m upward.
8. It takes the textbook 0.11 s to cross the window.

Physics 122

Friday, October 13/17

http://mvhs.nbed.nb.ca/

http://mvhs-sherrard.weebly.com/

---

1. Questions?
   Worksheet - Physics Texts Problems - Relative Velocity
   Worksheets - Relative Velocity (4)

2. Questions?
   Worksheet - Momentum: Collisions in 1D

---

3. Types of Collisions

4. Worksheet: Collisions - Elastic and Inelastic

5. Two Dimensional (2D) Collisions/Explosions

Science 10

Friday, October 13/17

http://mvhs.nbed.nb.ca/

http://mvhs-sherrard.weebly.com/

1. Questions?
   Worksheet: Single and Double Replacement Reactions

2. Combustion Reactions - Continue

3. Worksheet: Combustion Reactions

4. Roller Coasters

5. SA - Chem #2 - Topics
   - Wednesday, Oct. 18 at the earliest