ESP
Kouba
Worksheet 10 1/2

1.) A watermelon is dropped from the top of a $64 - ft.$ high dormitory.

    a.) How long will it fall before it strikes the ground ?
    b.) What is it's velocity (in ft./sec. and mph) as it strikes the ground ?

2.) A baseball is thrown *upward* from the top of a $64 - ft.$ high dormitory at $48 ft./sec.$

    a.) How long will it take to reach it's highest point ?
    b.) How high above the ground does the baseball go ?
    c.) How long is the baseball in the air before it strikes the ground ?
    d.) What is it's velocity as it strikes the ground ?

3.) A baseball is thrown *downward* from the top of a $64 - ft.$ high dormitory at $48 ft./sec.$

    a.) How long will it fall before it strikes the ground ?
    b.) What is it's velocity as it strikes the ground ?

4.) A pebble is dropped from the top of a $1000 - ft.$ high skyscraper. At the same moment (directly below the pebble) a helium balloon is released from ground level and rises vertically at the constant rate of $10 ft./sec.$

    a.) In how many seconds will the pebble strike the balloon ?
    b.) What is the pebble's velocity as it strikes the balloon ?

5.) Assume that you throw a rubber ball straight up from ground level and that it strikes the ground in 5 seconds.

    a.) How high above the ground did the ball go ?
    b.) What was the ball's initial velocity ?

6.) A vehicle is traveling at $80 ft./sec.$ when brakes are applied. Assume that this results in a constant deceleration of $-20 ft./sec.$

    a.) After the brakes are applied, how long will the vehicle travel before it comes to a complete stop ?

    b.) After the brakes are applied, how far will the vehicle travel before it comes to a complete stop ?