Ch 3 #10

To find components of the resultant for part A, just combine all x-components of the 3 vectors, and combine all y-components of the 3 vectors. (Take into account whether the components are pointing left or right, up or down.) For part B, use Pythagorean theorem and $\tan^{-1}$ to find the magnitude and direction of the resultant, using those components from part A.

Ch 3 #19

This one is TOUGH mathematically. Here's the idea... You can start to set up a horizontal equation, but you'll find that you're missing both t or θ in that equation. But if you try, you should be able to also write a vertical equation missing those same 2 variables, which means you've got a system of equations that you an solve. (To get this vertical equation, you'll need to realize that the total vertical displacement is zero, since the water starts and ends at the same vertical position.)

-continued-

Ch 3 #19 (cont.)

To solve the system of 2 equations, you'll need some weird math, though. Once you solve the horizontal equation and substitute it into the vertical equation, you'll wind up with a weird term that says "$\sin\theta\cos\theta$". Employ the following trig identity, though, and you've almost got the answer: $2\sin\theta\cos\theta=\sin2\theta$.

Ch 3 #26

For part A, just realize that it's asking you how far the bullet falls while moving 75m horizontally. For part B, it's quite similar to #19, so check out that hint again.

Ch 3 #31

Part of this one can just be confusing to know what it's asking for. Parts C, D, E are all asking about the projectile's motion as it is quickly striking the ground. Part C wants the two components of final velocity. Part D wants the resultant's magnitude, and part E wants its angle.

Ch 3 #35

Part A should be alright if you think of it as the supplies being launched horizontally. On part B, you need to realize that the horizontal distance to land is shorter, so the supplies need to be thrown downward in order to speed up how quickly they'll strike the ground.