The Golden Runner
A. I picked this project because it was actually something out of my interest zone. I have never actually ridden a jet ski, and this is what inspired me to do this. I wanted something that I could be creative with and have unique designs that I was not familiar with. I started searching and thinking of things that would meet this criteria, and a jet ski seemed like a perfect choice. This also grabbed my attention because there is not set design for a jet ski. I added my own cuts and extrudes to kind of make it my own design and jet ski.

B. I used a lot of different features here, and I was out of my comfort zone for a lot of the time. I used extruded boss base for nearly all of the components to start. I would have a kind of square design that I would then cut down to meet my needs using extruded cuts. For example, the bottom component started out as a square with a curved side. That
curved side was actually the result of me trying a new type of line called a spline. It was perfect to create that curved side of the bottom to give the jet ski a more streamlined look. I then went into a different plane and extrude cut out the edges for the entire bottom. I then used fillets to give it an even more streamlined look. I did the same process for the seat, middle component, handle bar mount, and handle bar holder. The front however, required some different processes. I used the lofted boss/base feature to create the semi-circle cone for the front to give it a streamlined look on top. I just did not want that type of design on the front of my jet ski, and to give it my own look I used two lofted cuts to create the two circular runners on the front of the jet ski. The handle bars and speedometers were a much more in depth process. To create the part that the handle bars attach to, I used the same process as listed before with the extruded boss/base and cuts. I then used a simple extruded boss/base to create the circle parts that would be the handle bars. I then created a hollow tube based on the dimensions of the handle bars to make my throttles. I then drew a series of circles and extruded cut through the outside of that ring to give it a ridge like look. Then, to secure the throttle onto the handle bars, I created two holders on the end of the handle bars. I used a new feature to create those also. Instead of using a lofted boss/base to connect my two circles, I used the boundary boss/base feature. This was much simpler for me to use than the lofted boss/base, and it allowed me to create a sort of cut design without the twisted curves being along my design. The speedometer was another problem altogether. The actual needle was very simple. I made a needle shape extruded it and then cut a hole through it where it would rest in the middle of the circle of the speedometer. I then used a new feature to insert my letters along the arc of the speedometer. I made this its own sketch and then extruded the numbers out of
the sketch. I did this for the speedometer and the gauge for the engine speed. I then made two glass extruded circles that would cover the speedometer circles. This was how I made the components of my jet ski.

C. The hardest part of my jet ski was the mating. The parts were not all exactly equal to make coincident mates, and for some parts I had to go back and make them exactly equal down to a thousandth of an inch so that I could make them stay put without using locking mates. During my mating process too, my axis were all thrown off. To fix this, a new series of mates had to be made in respect to the planes to allow me to make my assembly drawing a possibility. There were a lot of parts to this assembly also, and the mates would sometimes affect an entirely different part of the jet ski that had no effect on it earlier. At one point my handle bars were moving my bottom component. Figuring all of the mates out was by far the hardest part of my design. This was a learning experience for me though. I did learn how to use the spline tool effectively in this project. Also, I learned how to mate individual lines to planes. I learned that you can used dimensions to mate things together and not even make them relative. I ended up deleting the mate that I did this for, but it seemed like an important tool to know. I learned how to use the boundary boss/base feature during this project. I thought it was much easier to use in that situation than the lofted boss/base feature, and it did not leave me with a twisted look that I got when I used the lofted boss/base feature. My favorite part of the jet ski required me to learn something new, also. I learned how to include text into drawings and actually extrude them to make them part of the design. My speedometer, and RPM gauge are my two favorite features and they required me to learn something new.
D. I learned a lot from the SolidWorks portion of this class. I learned the basics of how to extrude and cut things in all kinds of situations. I knew when to use certain features based on the situation from the SolidWorks portion of this class, and this alone made my personal project go much smoother. The ability to know what feature to use and when was the most important piece of knowledge from class. I was then able to take that knowledge and innovate with it to make new designs. I used different planes to make cuts on extrudes in other planes, and it was this type of different uses that allowed me to finish my jet ski.