Problems

Surya is competing in a triathlon that includes swimming, bicycling and running. For the first two segments of the race, Surya swam at an average rate of 4 kilometers per hour and bicycled at an average rate of 40 kilometers per hour. It took 81.75 minutes for Surya to swim and cycle a combined total of 43.29 kilometers, completing the first two segments of the race. How long, in minutes, did it take him to complete the swimming portion of the race? Express your answer to the nearest hundredth.

If an athlete who completes this triathlon swims, bicycles and runs a combined total of 52.95 kilometers, the distance the athlete swam is what percent of the total race distance? Express your answer as a percent to the nearest hundredth.

At what average rate, in kilometers per hour, must Surya run the third, and final, portion of the race if he wishes to complete the entire race in no more than 140 minutes? Express your answer to the nearest hundredth.