

Tri your luck at this.....

Jenny and Mel decided to test their fitness by competing in a triathlon. Jenny entered the “Enticer” event (250m swim, 7km cycle, 2km run) while Mel was feeling a little more confident and entered the “Pursuit” event (500m swim, 20km cycle, 5km run). Jenny completed her event in the total time of 48 minutes and 46 seconds, while Mel finished hers in 1 hour, 31 minutes and 3 seconds. **Who was the more successful triathlete that day?**

Task 1

The competitors were organized into categories by gender and by age. Jenny competed in the Female 30-39 category and Mel in the Female 25-29. How many competitors were in each category? What was the category position for each of the two friends? Why is this not enough information to draw reliable conclusions about the respective success of the two friends?

Jenny 38th out of 46

Mel 12th out of 17

The friends swam, cycled and ran different distances against different numbers of people. The conditions were different so a fair comparison cannot be made.

Task 2

What was the mean gun time for each category? [Hint: Think about how to enter the data into your calculator, remembering that the times have not been given in a decimal format] How did each of the two friends compare with the mean in her category?

Mean for Enticer Female 30-39 43:43

Mean for Pursuit Female 25-29 1:28:24

Jenny and Mel were both slower than the mean in their respective categories

Task 3

Calculate the standard deviation for the gun time in each of the two categories. Which data set is more consistent? What does this mean in the context of the two races?

SD of Enticer Female 30-39 5:42

SD of Pursuit Female 25-29 7:23

The Enticer Female 30-39 data is more consistent. This means that, even though there were more competitors, the competition was closer than with the Pursuit Female 25-29 category.

Task 4

Standardise Jenny's and Mel's gun times. What do these values say about the results of the two friends?

Jenny was 0.886 SDs slower than the mean for her category

Mel was 0.359 SDs slower than the mean for her category

Mel's result was more impressive than Jenny's

Task 5

Calculate the mean and standard deviation of the swim, cycle and run times in each category. Using these values, what was Jenny's best/worst leg? What was Mel's best/worst leg? Of the two friends, who was the better swimmer/cyclist/runner?

Female Enticer 30-39	Swim	Cycle	Run
Mean	7:56	23:55	11:51
Standard deviation	1:21	3:32	1:43
Jenny's standard time	0.516	0.749	1.007

Female Pursuit 25-29	Swim	Cycle	Run
Mean	12:16	50:40	25:26
Standard deviation	1:28	4:33	2:44
Mel's standard time	0.027	0.880	-0.504

Jenny's best leg was the swim and her worst leg was the run.

Mel's best leg was the run and her worst leg was the cycle.

Mel was better than Jenny at the swim and the run. Jenny was better than Mel at the cycle.