

Hello 757Swim Families!

For today's article and activity I'm going to give out a little swimming-related math lesson. This can be done using teamwork as a family or singularly by your athletes. Some problems may come directly from the videos, some may be just merely related to the athletes. Some of these problems will be more advanced than others, try and give them all a shot! (Teamwork may be necessary) I chose 2 videos for our members to dissect the way a swim coach looks at a race through the numbers. My hope is that this is an interesting way to do a little bit of math work as well as learn more about swimming.

The first video is of Erika Brown, a senior at the University of Tennessee. The video was taken this year during the SEC Swimming Championships which holds some of the greatest collegiate swimmers and teams in the country. Schools like the University of Florida, Alabama, Georgia and Auburn all call the SEC home. In the video, Erika swims the 2nd fastest 100Y Freestyle EVER by a woman, breaking the SEC Record in the process. It will quickly become clear who to watch. Watch the video here <https://www.youtube.com/watch?v=pNbR0r07hQs>

The second video is of Kieran Smith, a sophomore from the University of Florida. This video was also taken at the very same meet Erika Brown swam her blazingly fast 45.83 100Y Free. In the video, Kieran swims the University of Florida record, the SEC record, the NCAA Record and the American Record 500y freestyle. Watch the video here <https://www.youtube.com/watch?v=VKhzXiVyUZQ>

Watch each video and try and see what a coach is seeing. Technique start to finish, breathing pattern, walls, sub kicks, stroke rate, streamlines, body position etc.

Enjoy! Stay safe, stay happy and stay healthy,

Coach Drew

### **NOW FOR THE MATH-ERIKA**

1: If Erika takes 9 Strokes per 25, how many strokes will she take in the entire 100? Now watch the video and actually count her total strokes.

2: If Erika takes 3 Breaths per 25, how many strokes will she take the entire 100? Now watch the video and see if you can catch every breath.

3: If Erika does sub kicks out to 13 yards on each 25, how many yards will she have to SWIM in the entire race?

4: Using Erika's final time, calculate what her splits were at the 25/50/75y mark.

### **More Advanced Problems**

4: If Erika does sub kicks out to 13 yards each 25 AND takes 9 strokes per 25, how many yards does each stroke take her?

5: If it takes Erika 9 strokes to travel 12 yards in exactly 7 seconds, how many strokes is Erika taking per second?

6: If Erika travels 13 yards underwater taking 10 sub kicks, how far is each kick taking her?

7: If Erika travels 13 yards underwater taking 10 sub kicks in 7 seconds, how many kicks is Erika taking per second?

### **NOW FOR THE MATH-KIERAN**

1: If Keiran takes 9 strokes per 25, how many strokes will he take in the entire 500? Now watch and count (save yourself time and count the breaths as well)

2: If Keiran takes 5 breaths per 25, how many breaths will he take in the entire 500? (did you count from before?)

3: If Keiran only pushes out 5 yards each wall, how many yards will he SWIM in the entire race?

4: Using Keiran's final time, calculate his splits for each 50, for each 100 and for each 125.

### **More Advanced Problems**

5: If Keiran pushes out to 5 yards and takes 11 strokes per 25, how far does each stroke take him?

6: If Keiran takes 11 strokes in 20 yards and takes him 10 seconds, what is his stroke rate?

7: Lets say Keiran's first 200 was equally as fast as his second, what would those splits have to have had been to equal the time he achieved?