

Round: 7A

For the following questions, refer to the figure below.

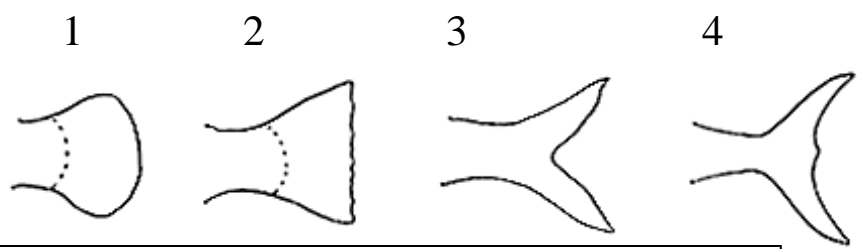


Figure 1: Fish Tail Shape

1. a. The shape of a fish’s caudal fin determines the aspect ratio. How is a fin’s aspect ratio calculated from tail measurements? Write the equation in the space below. (4 pts)
- b. Using your equation from 1a, what is the aspect ratio of the remarkably rectangular caudal fin depicted in Figure 2? (4 pts)

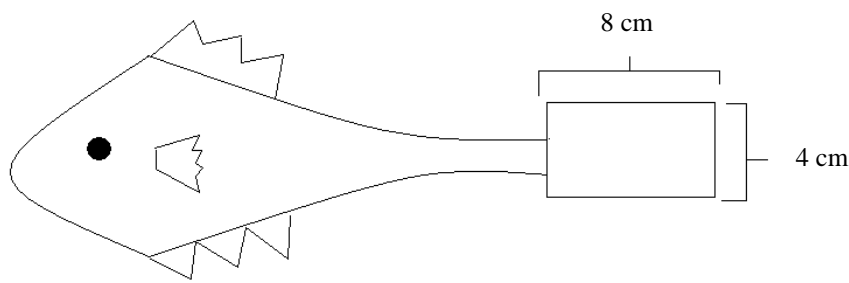


Figure 2: Hypothetical Caudal Fin

2. a. Referring to Figure 1, which caudal fin type has the highest aspect ratio? (2 pts)
- b. For what sort of swimming is this caudal fin type best adapted? (2 pts)
- c. Name two (2) species of fish in which this caudal fin type is found. (2 pts)
3. I am a fish that lives on the bottom. I am pretty much a sit-and-wait predator, so I have to be good at both accelerating and maneuvering. However, I am a pretty slow swimmer if I have to swim for any length of time. What kind of tail should I have and why? (6 pts)