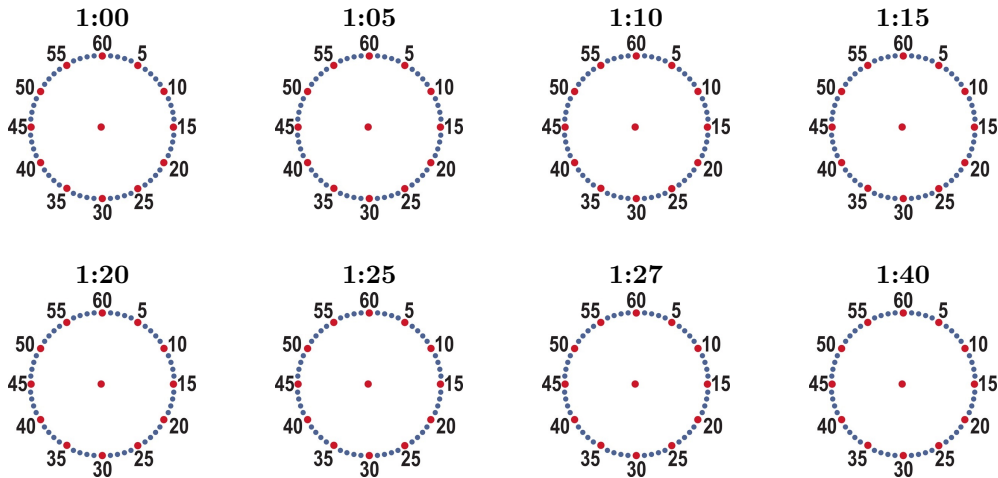


Please answer each question carefully and completely. If you feel a question is ridiculous then you must give a ridiculous answer. Every question on this test can be answered, but snark and clever drawings are accepted as well.

Name: _____

- (25 points) About how far should one rotate one's shoulders during a side breath, in radians? _____
- (50 points) A Basic Question: Ari is doing a pool reading and the pH is at 9. What reagents, and in what amounts, can she add to make the water safe to swim in again assuming a 242,000-gallon pool?
- (80 points) On the pace clocks below, number the points when you go in the order that you encounter them on the given send-offs assuming that you start the first one on the 60:



- (70 points) Using the following fallacious and/or absurd syllogisms as premises, form your own syllogism *ex falso quodlibet* determining whether or not Socrates is a duck.

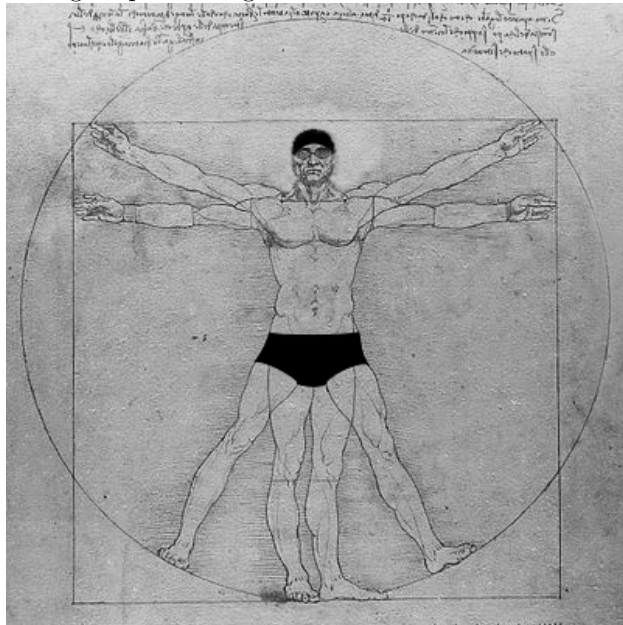
If it is raining, the pool is wet.
 It is raining.
 \therefore The pool is wet.

All ducks float.
 Anyone who is a witch will float.
 \therefore All witches are ducks.

All swimmers are mortal.
 Socrates is a swimmer.
 \therefore All swimmers are Socrates.

- (20 points) At what point(s) during a 200 IM short-course race is it acceptable to do a backstroke flip turn?

6. (60 points) List six items one might find caught in the pool filter:
- (a) (10 points) _____
 - (b) (15 points) _____
 - (c) (10 points) _____
 - (d) (5 points) _____
 - (e) (10 points) _____
 - (f) (10 points) _____
7. (15 points) What do they call the Australian Crawl in New Zealand? _____
8. (40 points) Albert weighed 110 pounds when he came to the pool, burned 1,000 calories during his workout, but weighed 113 pounds when he left. At a price of 16 euro/litre, how much should he be charged by the front desk for consuming our precious pool water?
9. (45 points) (a) (30 points) We are accustomed to referring to the pool area as a “natatorium”, but according to the principles laid out by Vitruvius in *De architectura* can it be properly called a “cella natatoria” or do the building’s other uses render it definitively as a “piscina”?
- (b) (15 points) *The Vitruvian Man*, named after Vitruvius, is a drawing by Leonardo da Vinci portraying a male human figure performing which swim stroke? _____



10. (45 points) Apply the concept of *Original Position* as set forth by John Rawls in his 1971 work *A Theory of Justice* to a swim practice, outlining the roles and responsibilities of all parties involved to maximize fairness. Pay particular attention to the core principles of justice as fairness according to Rawls, particularly those of *fair equality of opportunity* and the *difference principle*.