*Science 10* Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**ICA Practice – Physics**

**Show all work and include units.**

1. Joanne was on a break-away down the field. She ran at a speed of 8.2 m/s for 23.0 m. How long did it take her?
2. Find the average velocity (in m/s) of a bicycler that starts 150.0 meters north of town and is 1200.0 meters north of town after 30.0 minutes.
3. ***\*\*Challenge:*** A marathon swimmer is reported to swim at an average speed of 2.6 m/s. How far will they have swum after 10.0 hours? (Put your answer in km)
4. Read the scenario below and sketch a position-time graph to represent the motion.

*Barbara leaves her house to go for a run. She runs at a steady pace for some time and then gets a cramp. She stops for a few minutes to get rid of the cramp. When the cramp is gone, she begins to walk back towards her home. Her cell phone rings and she talks to her friend while walking which causes her to walk a few blocks past her house! She turns around and takes a fast jog back home.*

**Draw position (displacement) versus time graphs that would qualitatively represent the following stories.**

1. Mike started slowly walking to school, after a few minutes he realized he was late so he sprinted for a while. This made him very tired so he had to stop and catch his breath. He saw a bike in the woods, stole it, and biked to school as fast as he could.
2. A dog was standing beside his owner. He saw a squirrel in a tree and ran towards the tree. He sat at the bottom of the tree and barked. The owner pulled on his leash and he walked slowly back to the owners side.
3. Jimmy walked from his house to the store. He realized he forgot his wallet at home so he turned around and headed for home. Just before he got there he met his brother who had just found $20, so he turned around again and they both walked to the store.