Examine the graphs below.


Which of the graphs shows that one of runners started 10 yards further ahead of the other? Explain your answer.

In which of the following graphs below are both runners moving at the same speed? Explain your answer.


The distance-time graphs below represent the motion of a car. Match the descriptions with the graphs. Explain your answers.

## Descriptions:

1. The car is stopped.
2. The car is traveling at a constant speed.
3. The speed of the car is decreasing.
4. The car is coming back.


Graph A matches description $\qquad$ because $\qquad$ .

Graph B matches description $\qquad$ because $\qquad$ -.

Graph C matches description $\qquad$ because $\qquad$ -

Graph D matches description $\qquad$ because $\qquad$ -.

Suzie the scientist was taking a walk. While she was walking, a very large snake appeared directly in front of her. She stopped and wondered if it was going to attack her. Looking down at her shoes, she realized that she almost just stepped on one of its eggs. Suzie turned around and started to run as fast as she could away from the snake. The diagram below shows her position every second:

a. Describe her motion:
b. Sketch a position vs. time graph of Suzie's motion.

## VELOCITY

1. Nascar driver, Jeff Gordon, has a car that is one of the fastest on the circuit. If it travels 965.6 km in 4 hours, what is his cruising speed?
2. Because of sea floor spreading, the Atlantic Ocean is getting wider at a rate of about three cm per year. At that rate of expansion, how much wider will the Atlantic be at the end of 59 years?
3. How long would it take you to swim across a lake that is 900 meters across if you swim at 1.5 $\mathrm{m} / \mathrm{sec}$ ?
4. If Justin races his Chevy S-10 down Highway 37 for 2560 meters in 60 seconds, what is his velocity?

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