Name _____ Class _____ Date _____

REVIEW and REINFORCEMENT

Measuring Motion

Section **12-2**

KEY CONCEPTS

- A change in position in a certain amount of time is motion.
- Speed is the rate at which an object moves.
- Velocity is speed in a given direction.

Building Vocabulary Skills: Relating Terms

For each group of terms, write a sentence that shows how the terms are related.

1. position: time: motion

2. speed: motion

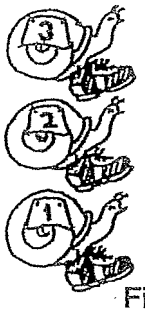
3. speed: distance: time

4. velocity: speed

5. time: distance: direction: velocity

At a Snail's Pace: Applying the Main Ideas

A snail moves at an average speed of 5 centimeters per minute (5 cm/min). Individual snails, however, may move at somewhat faster or slower speeds. To prove this point, three snails decide to have a race. They agree to race the length of a meter stick from 0 cm to 100 cm. They line up the meter stick from east to west on a smooth patch of grass. At the finish line, they place some tasty lettuce leaves for the winning snail to eat.



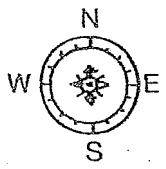


Figure 1

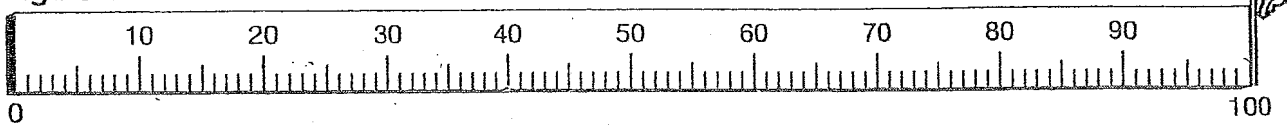


Figure 2 shows the positions of the snails after the first 5 minutes of the race.
Figure 3 shows their positions after the second 5 minutes.

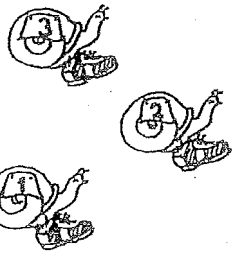
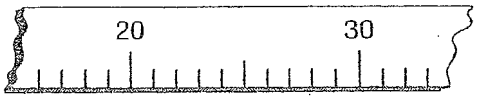


Figure 2



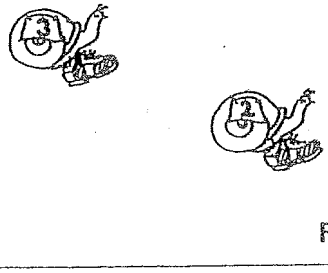
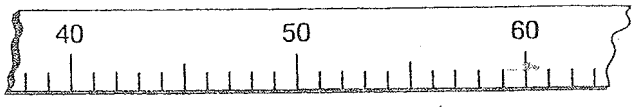


Figure 3



1. Determine the distance that each snail traveled between 10:05 AM and 10:10 AM.

   Snail 1: _____

   Snail 2: _____

   Snail 3: _____

2. Calculate the average speed for each snail.

   Snail 1: _____

   Snail 2: _____

   Snail 3: _____

   What is each snail's velocity during this time period?

   Snail 1: _____

   Snail 2: _____

   Snail 3: _____

   A person watching the race noticed that at exactly 10:05 AM an ant wandered onto the snails meterstick. The ant crawled onto the 94-cm mark and reached the 50-cm mark at exactly 10:06 AM. What was the velocity of the ant?

   _____