

Activity 7.15 (7 of 10)

Student Handout (2 of 2)

Calculations

To calculate the average speed, use the equation

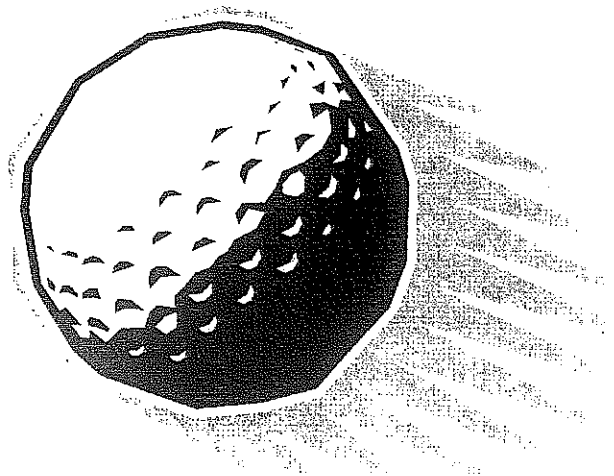
$$\text{Speed} = \frac{\text{DISTANCE}}{\text{TIME}}$$

Analyzed Results

- Graph (on graph paper) the Time (IV) on the X axis versus the Distance (DV) on the Y-axis. Plot the points then draw a line through the center of the points.
- **Option:** Use the computer to plot the graph. Find and draw the regression line, the values for the slope (m), y intercept (b) and correlation coefficient (R). The slope (m) should be the close to the average speed.

Analysis Questions

1. What was the overall average speed?
2. What was the slope of the graph? What type of slope is it?
3. Explain how the slope of the graph and the speed are related.
4. What sources of error may have influenced your results?



Activity 7.15 (5 of 10)

Student Handout (2 of 2)

Finding the Average Speed

Calculate the Average Speed using the equation below:

$$\text{Average Speed} = \frac{\text{Distance Traveled}}{\text{Time}}$$

Analysis Questions

1. What formula was used to determine the average speed of the ball?
2. Explain the difference between an average speed and an instantaneous speed.
3. How could the lab procedure be modified, using the same equipment, to obtain a speed of the ball as it passed a point exactly 2.00 meters from the base of the ramp?

