

## Chemistry

## Absolute Error and % Error

1. If you measure the mass of a penny three times and find the masses to be 2.55g, 2.53g, and 2.54 g, and the actual mass of the penny is 2.50 g,
  - a. What is your average mass?
  - b. What is your absolute error, based upon your average?
  - c. What is the % error, based upon your average?
  - d. Are your measurements precise?
  - e. Are your measurements accurate?
2. You are one of three people in charge of timing laps in the pits for one of the racers at the Daytona 500. The three of you find the time for a lap to be: 44.91s, 45.02s, and 47.33s. The actual track time from the tower was 46.11s
  - a. What is your average time?
  - b. What is your absolute error, based upon your average?
  - c. What is the % error, based upon your average?
  - d. Are your measurements precise?
  - e. Are your measurements accurate?
3. You count some change in a change jar that you have at home. The first time you count, you find \$22.23, the second time you get \$22.21, and the third time you get \$22.31. You take it to the bank and they give you \$23.31.
  - a. What is your average amount?
  - b. What is your absolute error, based upon your average?
  - c. What is the % error, based upon your average?
  - d. Are your measurements precise?
  - e. Are your measurements accurate?
4. Draw a dart board where three darts are thrown. Show the three darts being precise, but not accurate.
5. Draw a dart board where three darts are thrown. Show the three darts being precise, and accurate.