Unit 15 Rounding Decimals and Writing Decimals as Fractions

- 1. Rounding to a specific place makes using decimal numbers easier.
 - A. A rounded number is approximately equal to (\approx) the number it represents.
 - B. Rounding procedures
 - 1. Determine the number of places desired in the answer.
 - 2. Round up if the digit to the right is greater than or equal to 5.
 - 3. Do not round up if the digit to the right is less than 5.
 - 4. Eliminate all numbers to the right of the required place value.
 - C. Examples:

Round 1.4647 to tenths.

tenths is the desired place value ↓ 1.4647 ≈ 1.5

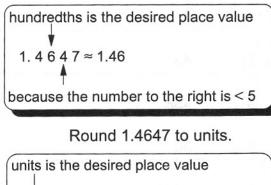
because the number to the right is \geq 5

Round 1.4647 to thousandths.

thousandths is the desired place value ⊥

because the number to the right is ≥ 5

Round 1.4647 to hundredths.



2. Repeating decimals

- A. 1/3 repeats as .3333 forever. $1/3 = .\overline{3}$ where $.\overline{3}$ means .3 repeats forever. 1/3 rounded to two places is .33 and 1/3 rounded to three places is .333.
- B. 2/3 repeats as .6666 forever. $2/3 = .\overline{6}$ where $.\overline{6}$ means .6 repeats forever. 2/3 rounded to two places is .67 and 2/3 rounded to three places is .667.
- C. Calculations using rounded repeating decimals are approximations of the correct answer.

3. Writing decimals as fractions

- A. Procedures
 - 1. Write the decimal's fraction equivalent (tenths, hundredths, thousandths, etc.).
 - 2. Reduce to lowest terms.
- B. Examples:

