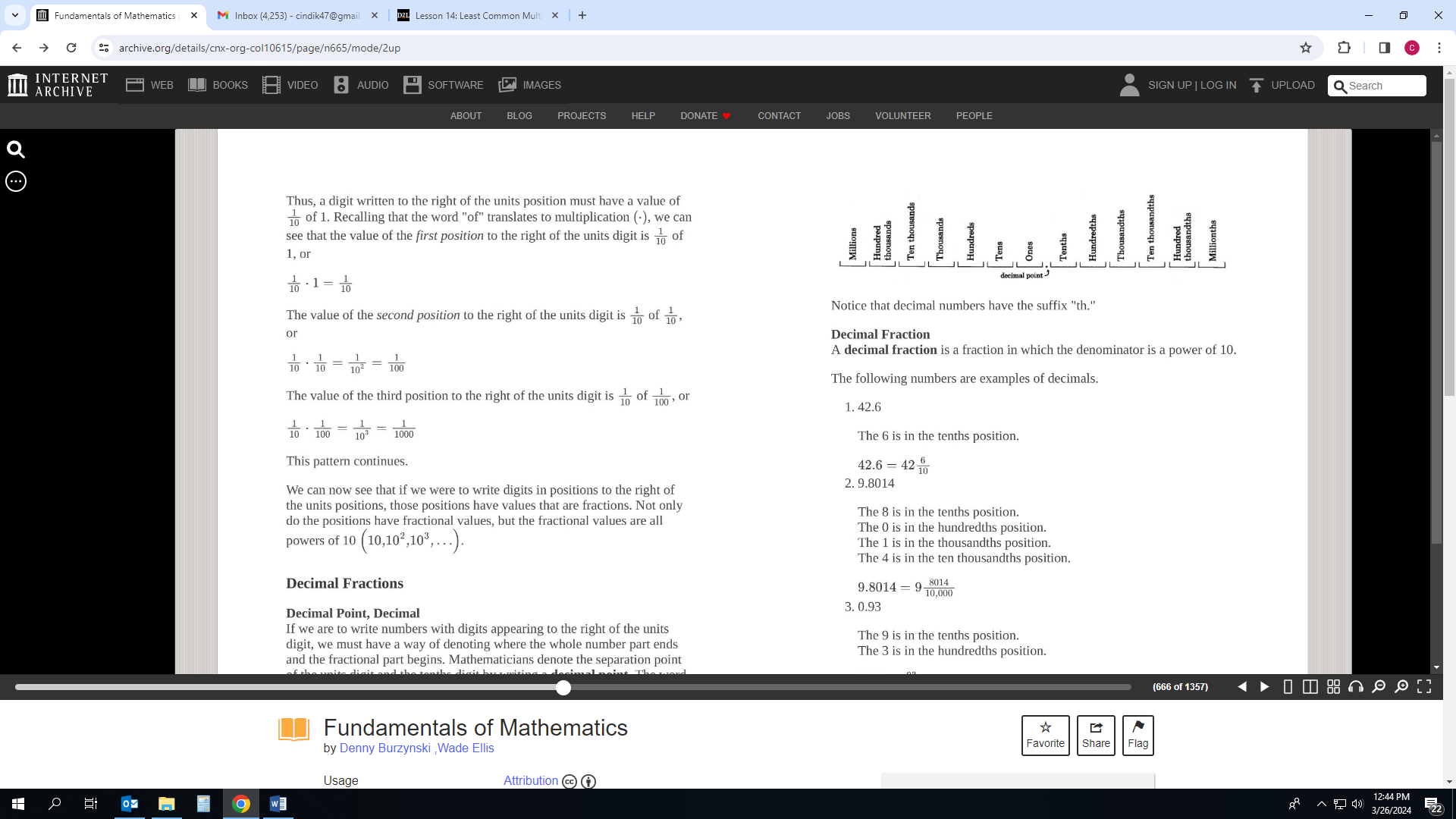
**Lesson 23: Decimals**

Mathematicians denote the separation point of the unit’s digit and the tenths digit by writing a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

The word decimal comes from the Latin prefix “deci” which means \_\_\_\_\_\_\_\_\_. We use it because we have a base ten number system.

Numbers written in this form are called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ or simply \_\_\_\_\_\_\_\_\_\_.



Positions to the left of the decimal point represent place values that are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ powers of ten.

Positions to the right of the decimal point represent place values that are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ powers of ten.

**Reading and Writing Decimals**

1)

2)

3)

4)

**Example 1: Write the name of each decimal.**

1. 8.8951
2. 18.25

**Expressing Decimal Fractions**

**Example 2: Express the value of the underlined digit as a fraction whose denominator is a power of 10.**

1. 47.35 b) 6.089 c) 14.37

Like whole numbers, decimals can be written in expanded form.

**Example 3: Write the expanded form of the decimal to show the powers of 10: 98.32.**

**Inequality and Equality of Decimals**

**Example 4: Compare the following decimals using ˂ or ˃.**

1. .47 \_\_\_\_\_ .6 b) .74 \_\_\_\_\_ .328 c) .324 \_\_\_\_\_ .32

d) 5.4 \_\_\_\_\_ 5.427 e) 3.85 \_\_\_\_\_ 3.8

**Example 5: Which number is the greatest?**

a) 0.19 b) 0.036 c) 0.195 d) 0.2

**Terminating and Repeating Decimals**

Terminating Decimal:

Repeating Decimal:

**Example 6:** Does the fraction terminate or repeat?

1. b) c)

d) e)

**Repetend**:

**Example 7: Write the decimal for each rational number. Use a bar to show the repetend.**

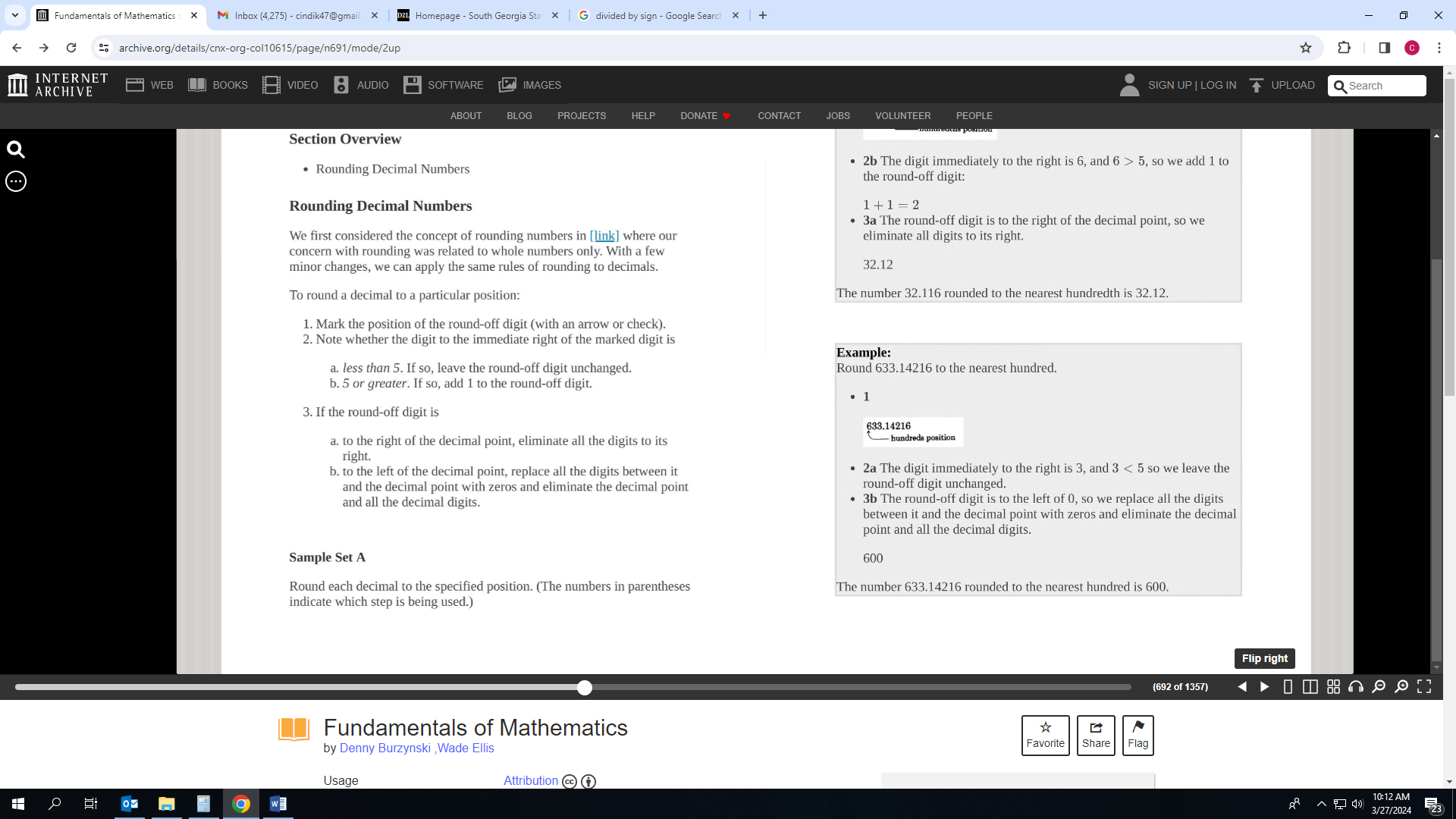
1. b) c)

**Rounding Decimals**

**Rules for rounding a decimal to a particular place value:**



**Example 9:** 633.14216



**Example 10: Round each decimal to the nearest tenth and to the nearest hundredth.**

1. 0.347 b) 0.082 c) 15.721

**Example 11: Round 2.3528 to the given number of decimal places.**

1. To hundredths b) To tenths c) To thousandths