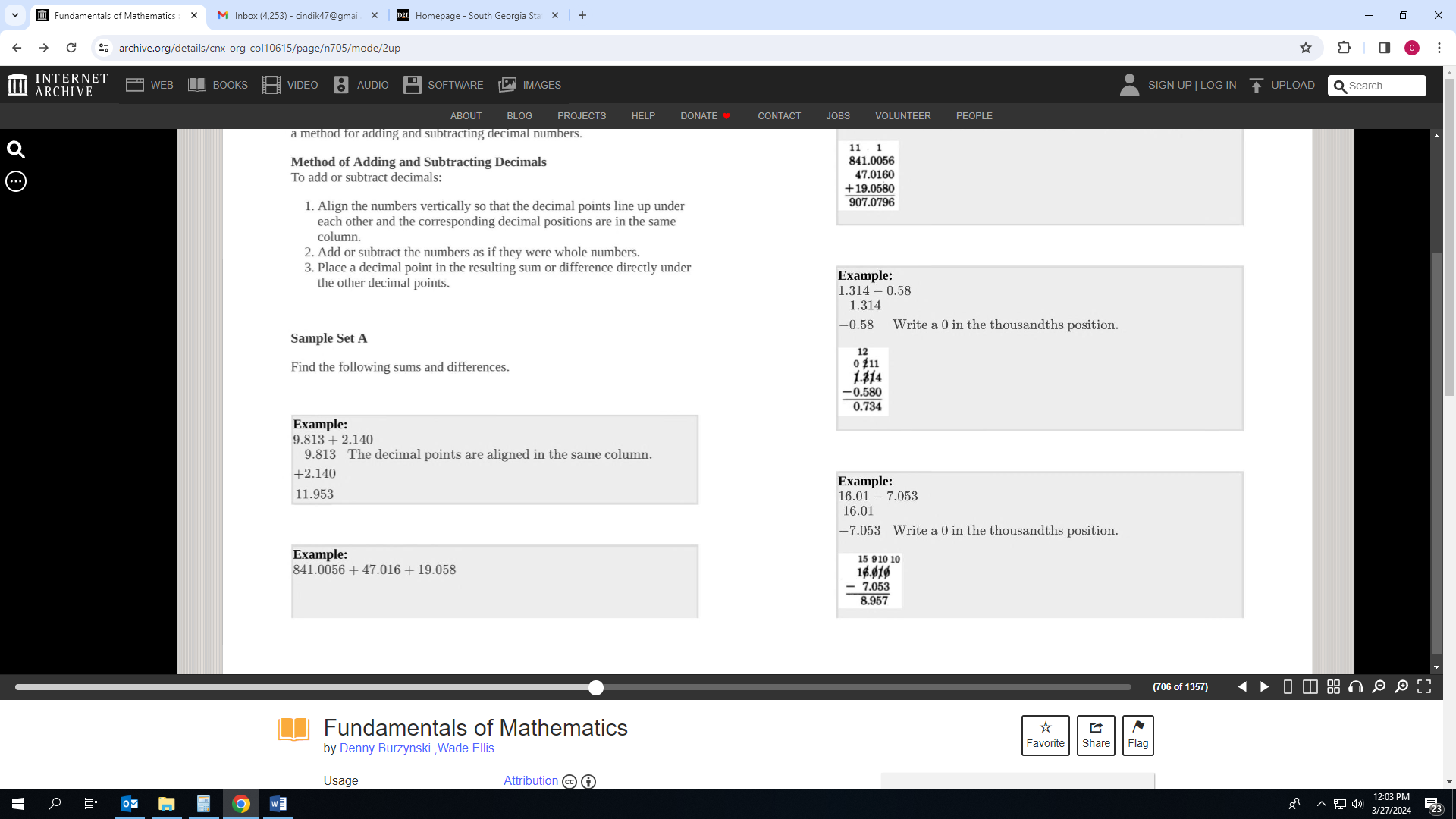
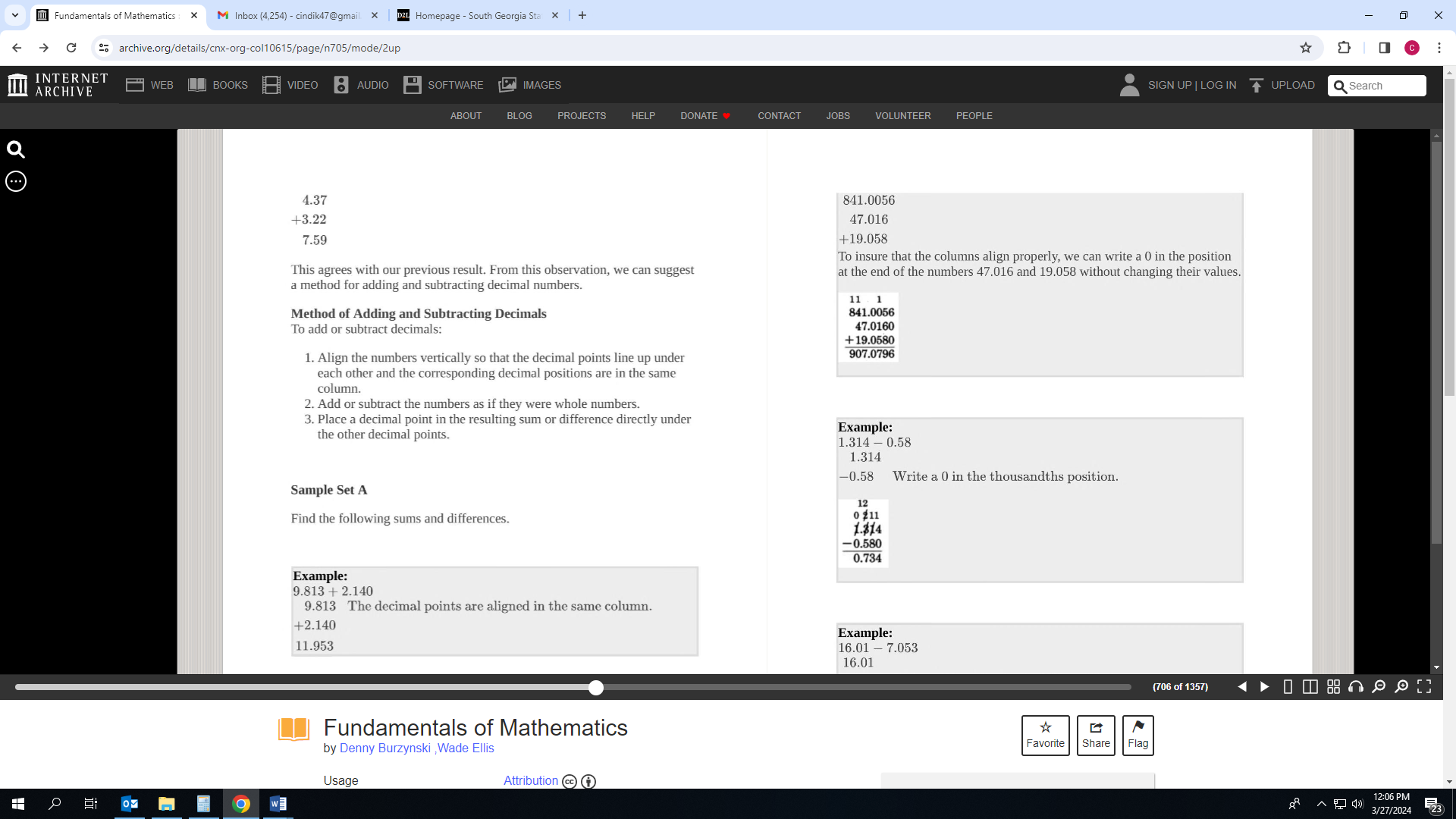
**Lesson 24: Operations With Decimals**

**Addition and Subtraction of Decimals**

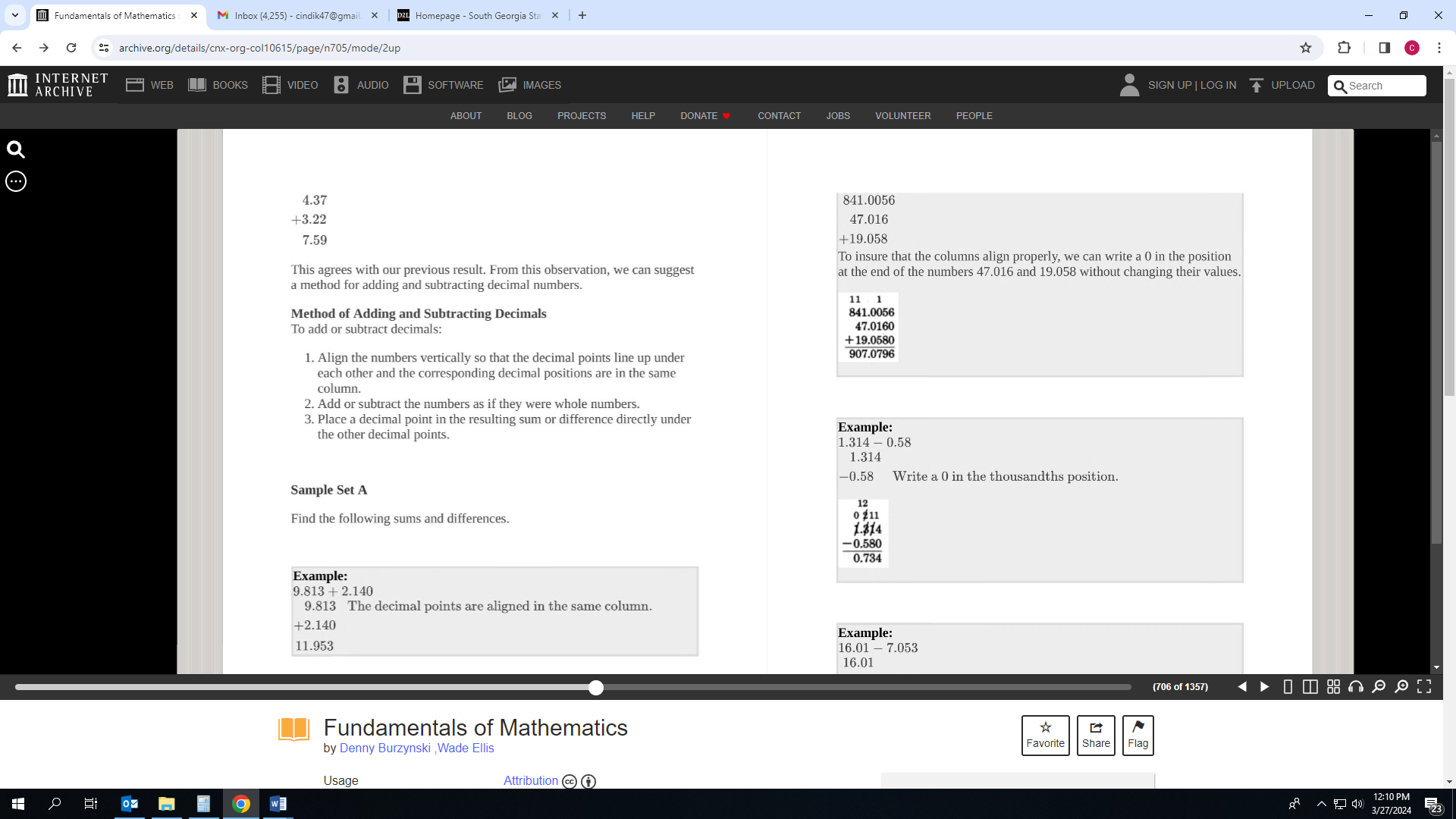
**To Add or Subtract Decimals:**

**Example 1:** **Add 9.813 + 2.140.**

**Example 2: Add 841.0056 + 47.016 + 19.058.**

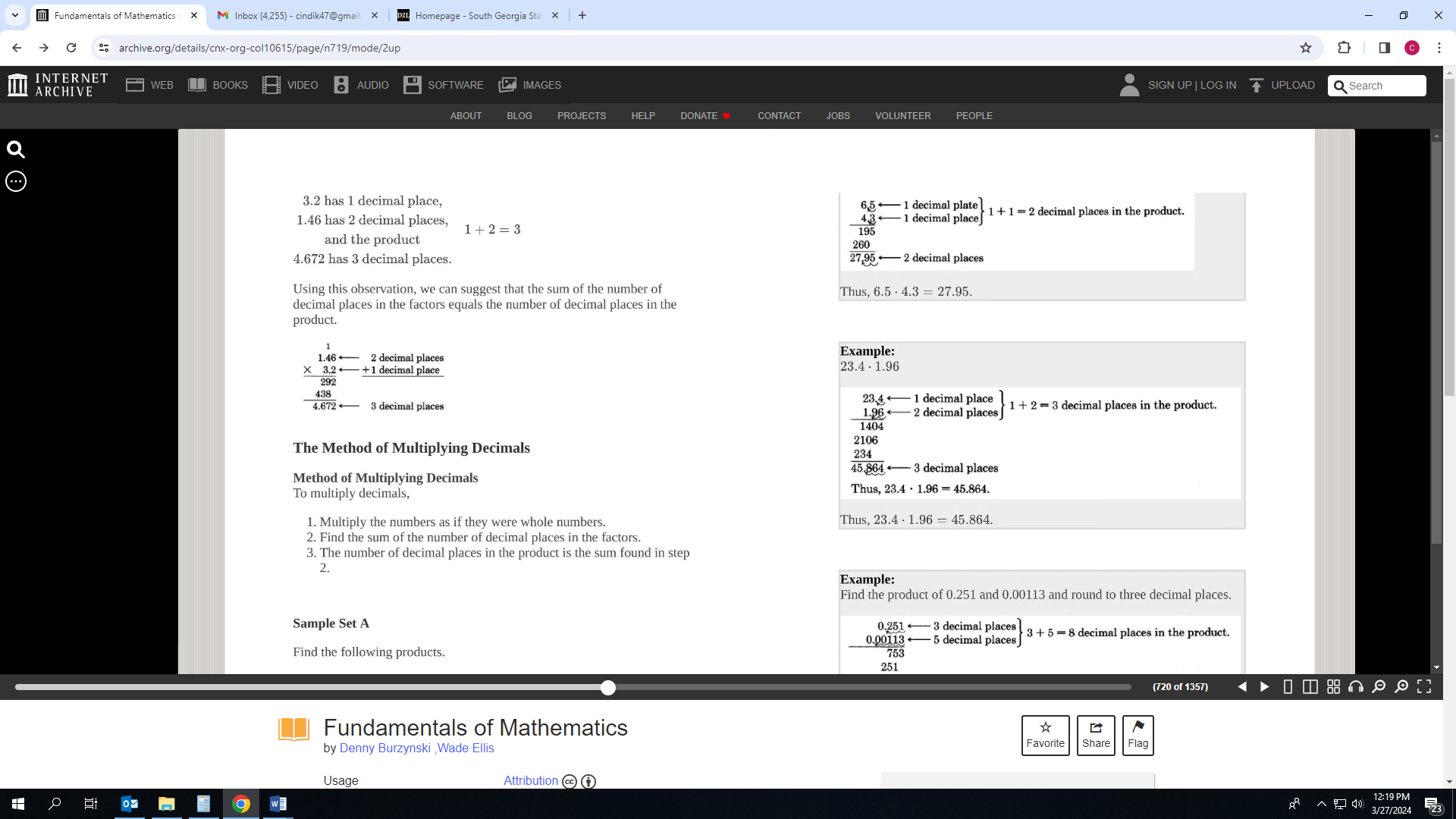


**Example 3: Subtract 1.314 – 0.58.**

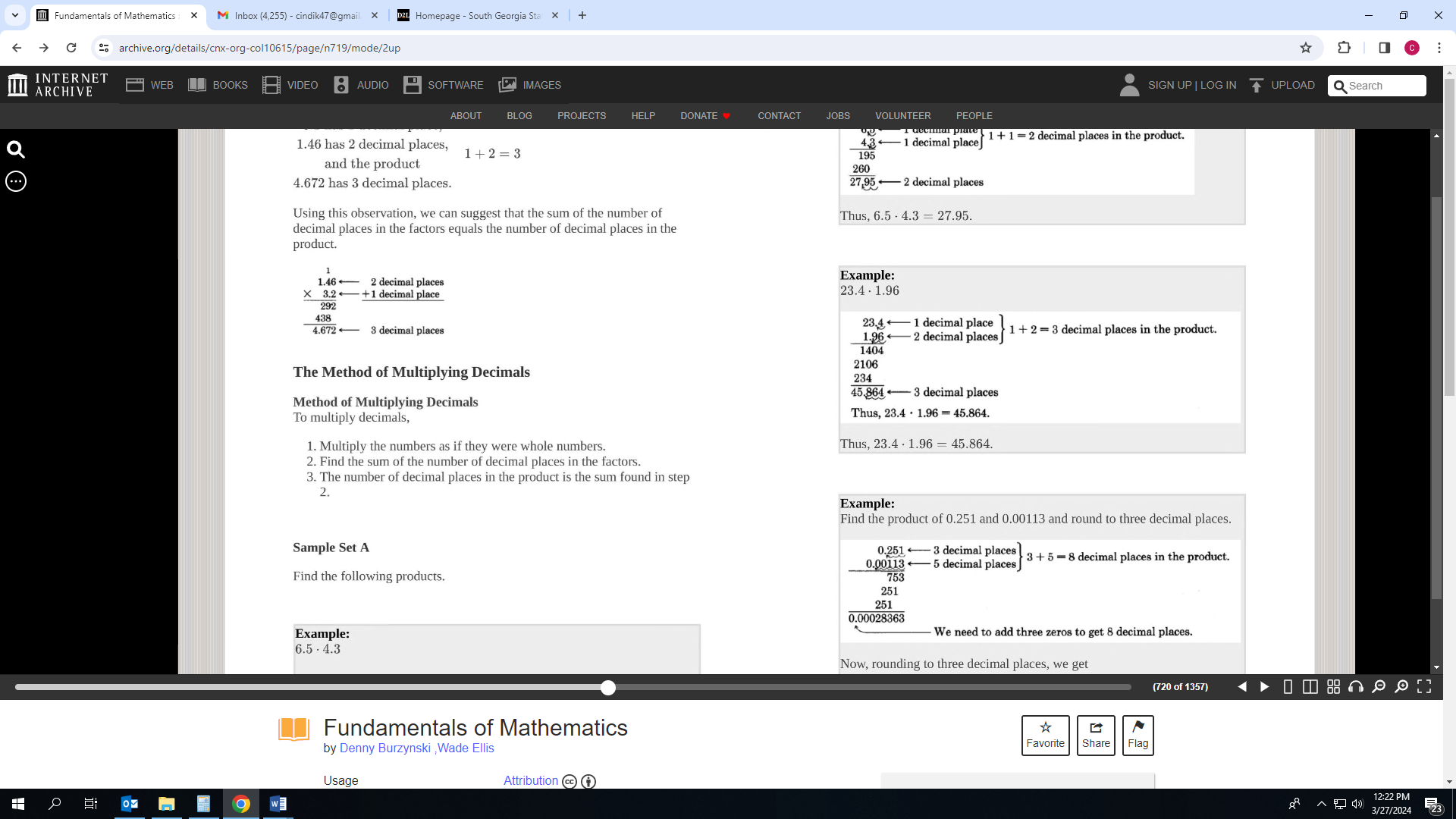


**Multiplication of Decimals**

**To Multiply Decimals:**

**Example 4:** **Find the Product of 1.46 · 3.2.**

**Example 5:** **Find the Product of 0.251 · 0.00113.**



**Multiplying by POWERS of 10**

**Example 6:** **Multiply by POWERS of 10 without using a calculator.**

1. .274 · 10 b) .39 · 100

c) 15.32 · 1000 d) 42.3 · .01

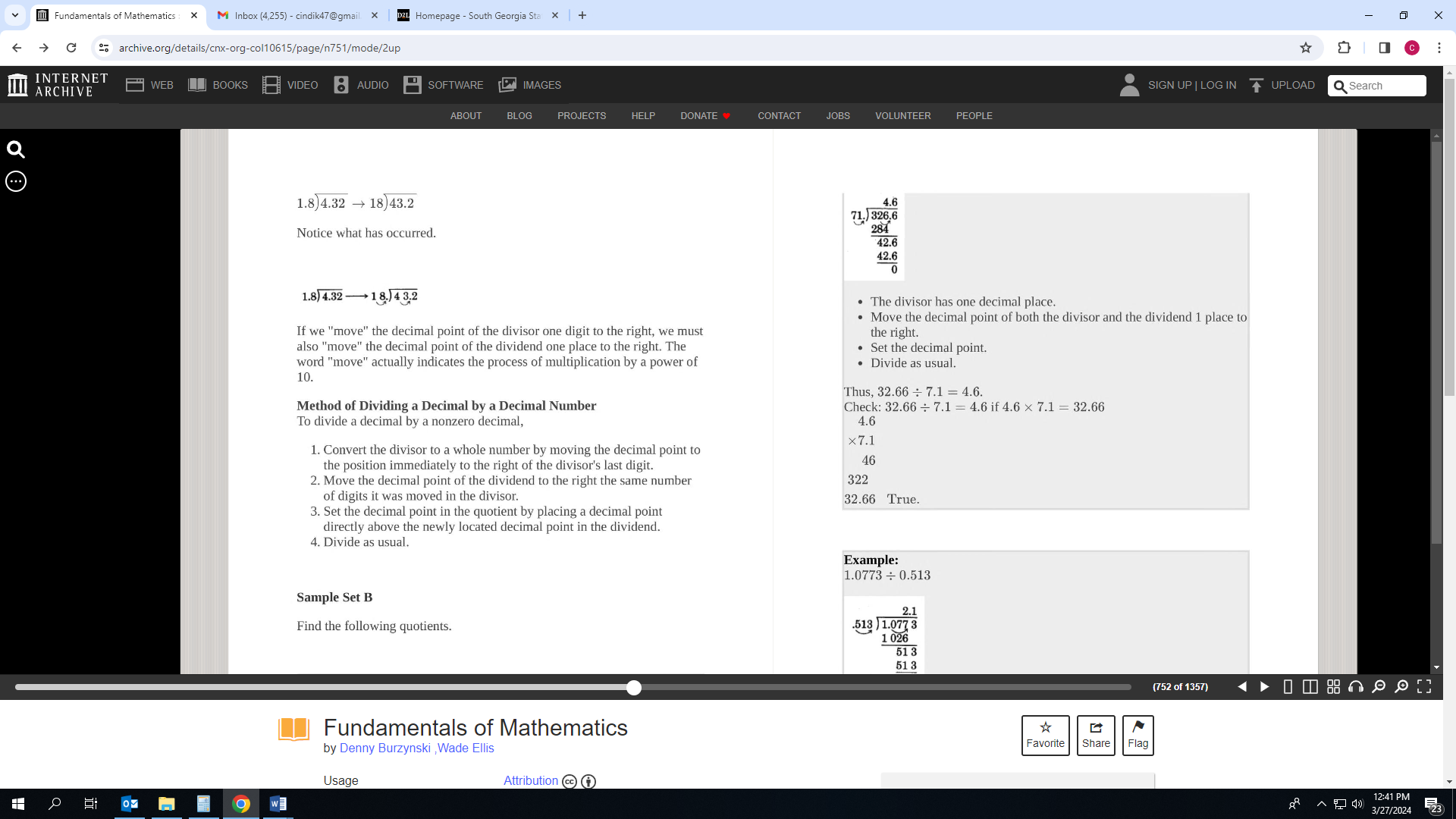
**Division of Decimals**

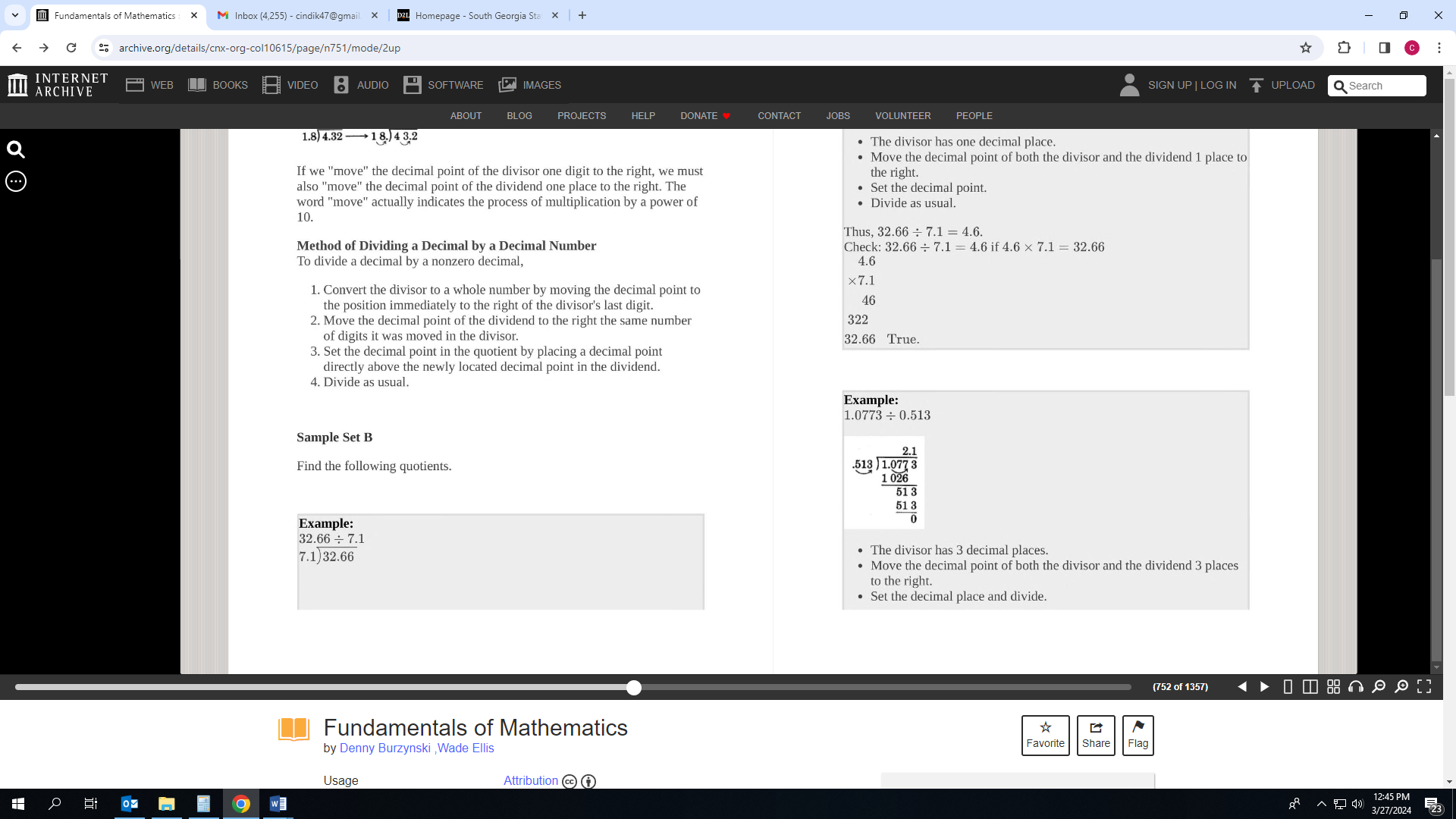
**To Divide a Decimal:**

In long division for dividing decimals, we never actually divide by a decimal.

Before we divide and adjustment is made so that the divisor is always a whole number.

**Example 7: Find the Quotient of 32.66 ÷ 7.1.**



**Example 8: Find the Quotient of 1.0773 ÷ 0.513.**

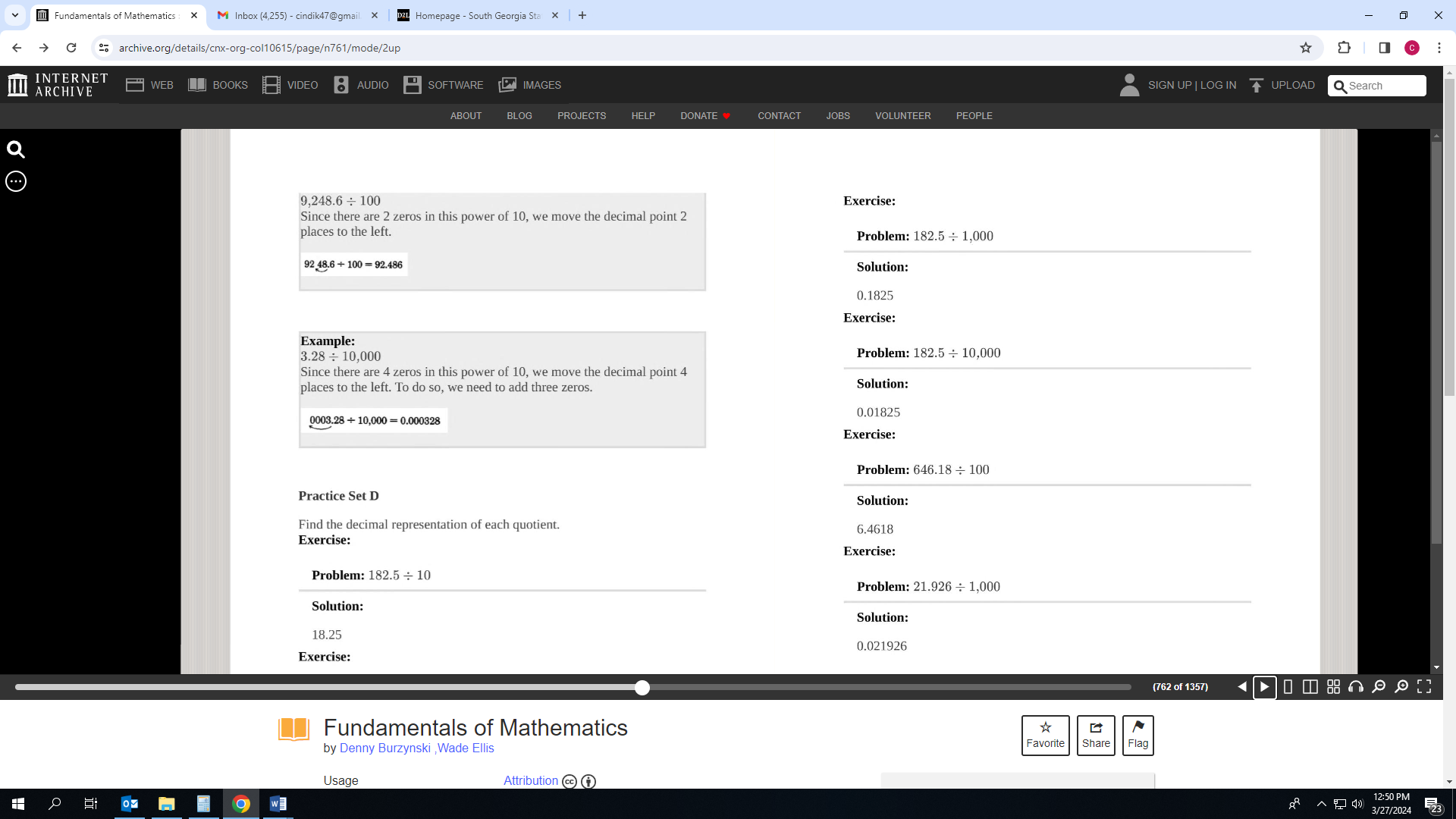
**Dividing by POWERS of 10**

To divide a decimal by a power of 10:

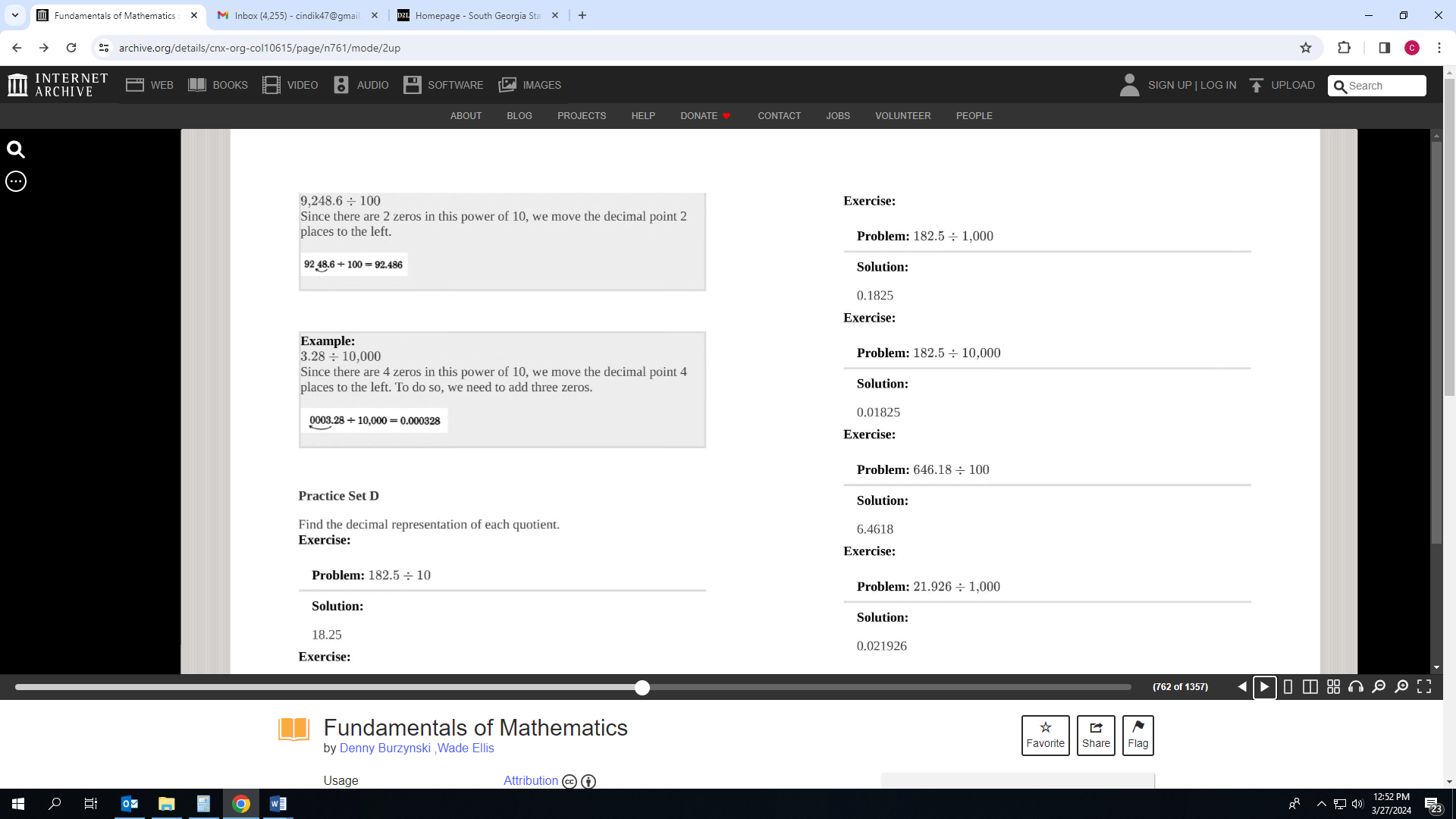
* move the decimal point one place to the left for each power of ten if the exponent is positive

or

* move the decimal point one place to the right for each power of ten if the exponent is negative.

**Example 9: 9,248.6 ÷ 100**

**Example 10: 3.28 ÷ 10,000**



**Example 11: 4.52 ÷ .001**

**Repeating Decimals**

A fraction, when *divided*, either \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ or \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

Therefore, a terminating decimal can be converted back into a fraction AND a repeating decimal can be converted back into a fraction.

**Example 12: Rewrite 0.47 as a fraction.**

**Tips for converting a Repeating Decimal back into a Fraction:**

**.88888… = .8 tenths place**

**.55555… = .5 tenths place**

**.05050505… = .05 hundredths place**

**.376376376376… = .376 thousandths place**

**Example 13: Replace each repeating decimal with a rational number.**

1. **. 17 b) .7 c) .238 d) .18**

**e) .32 f) .8 g) .631**

**Common Decimal Equivalents**

Sometimes in computing products mentally it helps to recognize decimal equivalents of a few simple fractions. These are considered to be \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

**Example 14: Find the Common Decimal Equivalents.**

**a) 0.25 =**

**b) 0.2 =**

**c) 0.8 =**

**d) 0.5 =**

**e) 0.4 =**

**f) 0.125 =**

**g) 0.75 =**

**h) 0.6 =**