# It's All the Same!

## Comparing Fractions, Decimals and Percent

Suggested time: 45 minutes

**What's important in this lesson:**
It is important for you remember the steps involved in the different types of conversion questions. Work carefully and use the examples as a guide since these questions can sometimes be tricky. When you are using the calculator, make sure you are dividing the fractions properly. Check all your answers to be sure you are on the right track!

**Complete these steps:**

1. Read through the Lesson portion of the package independently.
2. Complete the required 'Practice' questions.
3. If you have questions about the examples or the 'Practice' questions seek assistance from the teacher as needed.
4. Use 'Practice' Answer Keys to check your answers as they work through the package. If you are making errors, have your teacher review these questions with you.
5. Complete the It's All the Same Assignment

**Hand-in the following to your teacher:**

1. Practice Problems from the Student Handout
2. It's All the Same Assignment

**Questions for the teacher:**

# All the Same!
## Comparing Fractions, Decimals and Percent

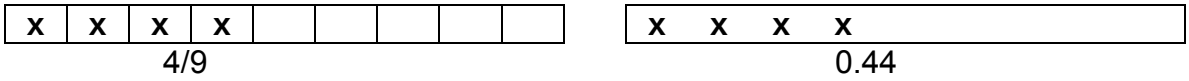
Part A - FROM a Fraction

Part 1A - Fraction to a Decimal

Examples

1. Convert the fraction 3/8 to a DECIMAL **Divide: 3 ÷ 8 = 0.375**

2. Convert 4/9 to a DECIMAL **4 ÷ 9 = 0.4444444444…**




4/9 0.44

***Notice that these diagrams have the same amount shaded in, so 4/9 is the same as 0.44…***

Part 2A - Decimal to a Percent

Examples

3. Convert the decimal 0.125 to a PERCENT

**Multiply by 100: 0.125 x 100 = 12.5%**

4. Convert 0.7777777… to a PERCENT **0.7777777… x 100 = 77.8%**
*(rounded to 1 decimal place)*

Part 3A - Fraction to a Percent

So, how could we convert a FRACTION to a PERCENT?

Use both of the steps described above:

Examples

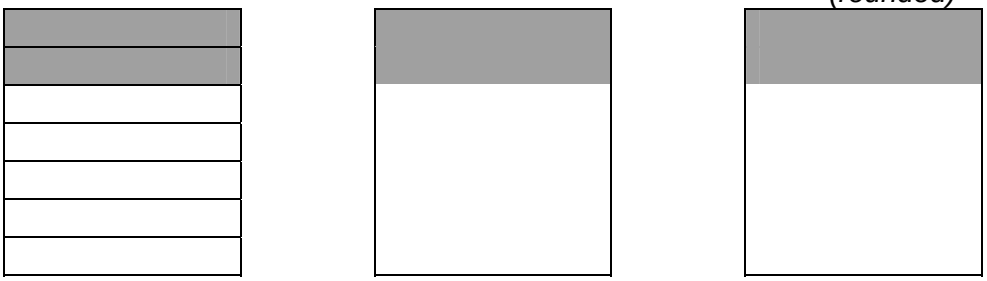
5. Convert 3/5 to a PERCENT **A) Divide: 3 ÷ 5 = 0.6**

**then**

**B) Multiply by 100: 0.6 x 100 = 60%**

6. Convert 2/7 to a PERCENT **A) 2 ÷ 7 = 0.285714285714…**

**B) 0.285714285714… x 100 = <u>28.6%</u>**
*(rounded)*



**2/7** **0.285714** **28.6%**

***Notice that these diagrams have the same amount shaded in!***

<u>Practice Problems</u>

1. Convert the following to DECIMALS:

   a) 5/8 - _____ b) 4/5 - _____

   c) 7/12 - _____ d) 17/22 - _____

2. Convert the following to PERCENT: (rounded to 1 decimal place where applicable)

   a) 2/5 - _____ b) 2/3 - _____

   c) 13/20 - _____ d) 9/13 - _____

3. A baseball player's batting average is 0.315 What PERCENT is this?_____

4. If you get 23/25 on a test, then what is your PERCENTAGE? (show work)

**<u>* Check the answers to these questions before moving on to part B!</u>**

Part B - TO a Fraction

Part 1B – Percent to a Fraction

Recall that "percent" means "out of 100"! So…

To convert 23% to a fraction means $\frac{23}{100}$. (That's all!)

Example

1. Convert 44% to a fraction

44% means $\frac{44}{100}$

This fraction is not in lowest terms.

$\frac{44 \div 4}{100 \div 4}$

$= \frac{11}{25}$

Both numbers can be divided by 4!

*HINT: The number 100 can be divided by: 2, 4, 5, 10, 20, 25, and 50!!!*

Part 2B – Percent to a Decimal

How do we convert a percent to a decimal?

Divide the percent by 100

Example

2. Convert 62% to a DECIMAL

62 ÷ 100 = 0.62

Part 3B – Decimal to a Fraction

So how do we convert a DECIMAL to a FRACTION?

Convert to a PERCENT and then create the fraction:

Example

3. Convert 0.35 to a FRACTION

to a percent 0.35 x 100 = 35%

then to a fraction: $35\% = \frac{35}{100}$

$\frac{35 \div 5}{100 \div 5} = \frac{7}{20}$

Practice Problems

1. Convert the following to FRACTIONS:

   a) 17% - _____ b) 32% - _____

   c) 85% - _____ d) 91% - _____

2. Use both part A and part B from this lesson to fill in the missing blanks of the chart:

| DECIMAL | PERCENT (to 1 decimal place) | FRACTION (lowest terms) |
|---|---|---|
| a) | b) | 4/10 |
| c) | d) | 9/16 |
| e) | 43% | f) |
| g) | 15% | h) |
| 0.75 | i) | j) |
| 0.04 | k) | l) |
| m) | n) | ⅛ |
| o) | 8% | p) |
| 0.8 | q) | r) |
| 0.01 | s) | t) |
| u) | v) | 2/11 |

***Check all answers before moving on!**

## It's All the Same Assignment

1. We had snow during all 3 winter months this year. Write this as a fraction (out of 12 months) in lowest terms, and then convert it to a decimal.

2. There were 48 days of rain this year (365 days total). What percentage of days had rain last year?

3. I got 70% on my exam. Write this as a fraction in lowest terms.

4. Complete the chart below.

| **DECIMAL** | **PERCENT (to 1 decimal place)** | **FRACTION (lowest terms)** |
|---|---|---|
| | | 1/5 |
| | | 2/9 |
| | 60% | |
| | 12% | |
| 0.98 | | |
| 0.55 | | |