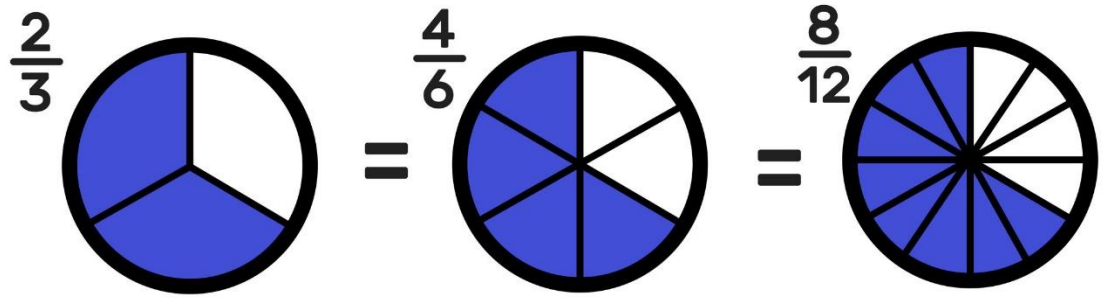
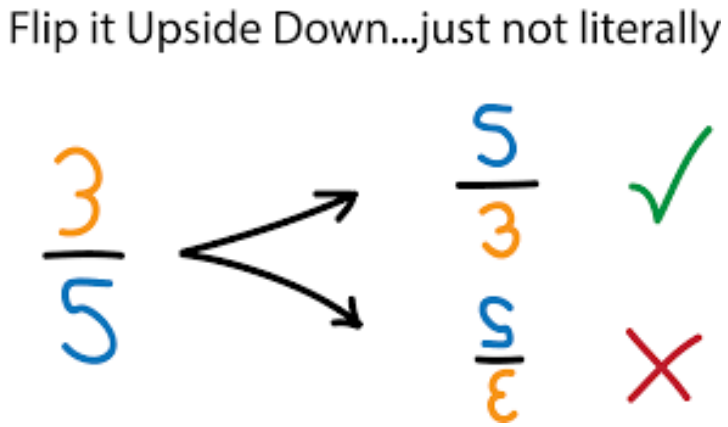
N6 - Dividing Fractions

Review these terms.

Fraction Words

- repeated addition
- numerator
- denominator
- proper fraction
- mixed number
- improper fraction
- whole number
- equivalent fractions
- reciprocal

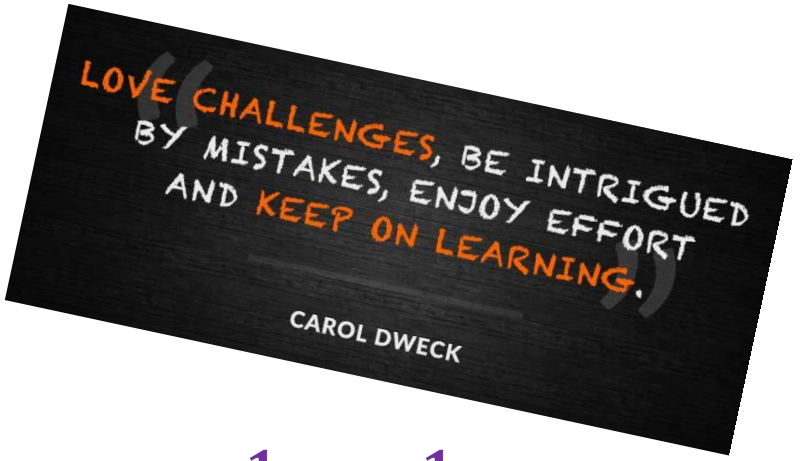




The following slides will discuss three (3) types of DIVISION equations that you must learn.

DIVISION: Copy these 3 examples into your math scribbler.

1. **Whole Number ÷ Fraction** $\mathbf{4} \div \frac{\mathbf{1}}{\mathbf{2}}$

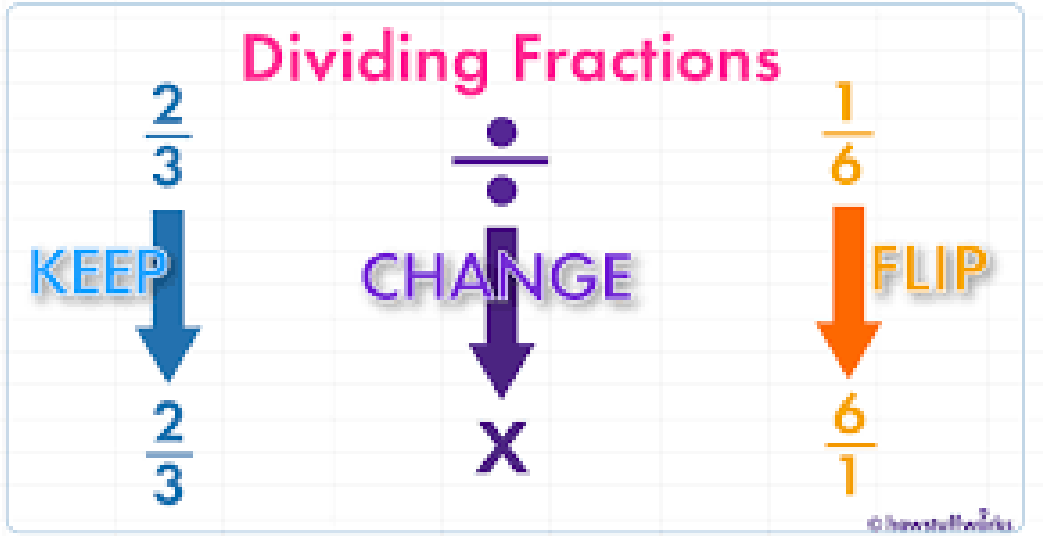


2. **Fraction ÷ Fraction** $\frac{1}{2} \div \frac{1}{4}$

3. **Mixed Number fractions ÷ Mixed Number fraction** $\mathbf{2\frac{1}{2}} \div \mathbf{3\frac{1}{4}}$

Copy the following in your math scribbler. (examples with fractions next slide)

DIVISION – FRACTIONS



In order, the steps are:

1. Leave the first **fraction** in the equation alone.
2. Turn the **division** sign into a multiplication sign.
3. Flip the second **fraction** over (find its reciprocal).
4. Multiply the numerators (top numbers) of the two **fractions** together. ...
5. Multiply the denominators (bottom numbers) of the two **fractions** together.
6. Simplify.

Ex 1. DIVISION – FRACTIONS (to copy)

$3 \div \frac{3}{5}$

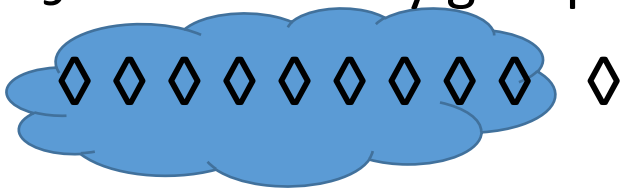
- change ÷ to muliplication $3 \times ( )$
- flip the 2nd fraction $3 \times \frac{5}{3}$
  - multiply $\frac{15}{3}$
  - calculate 5

Ex 2. DIVISION – FRACTIONS (to copy)

$$\frac{2}{3} \div \frac{3}{5}$$

- change ÷ to muliplication $\frac{2}{3} \times (\ )$
- flip the 2nd fraction $\frac{2}{3} \times \frac{5}{3}$
  - multiply $\frac{10}{9}$
  - calculate $\frac{10}{9} = 1\frac{1}{9}$

$\frac{10}{9}$ = How many groups of 9 in 10? 1 group of 9 and 1 left from the 10



Ex 3. DIVISION – FRACTIONS (to copy)

$3\frac{1}{4} \div 1\frac{3}{5}$

- mixed fraction to improper $\frac{13}{4} \div \frac{8}{5}$
- change ÷ to multiplication $\frac{13}{4} \times (\ \ )$
- flip the 2nd fraction $\frac{13}{4} \times \frac{5}{8}$
  - multiply $\frac{65}{32}$
  - calculate $2\frac{1}{32}$

In your bubblehead:

How many groups of 32 in 65? …. 2 X 32 = 64 …. With 1 left over = $2\frac{1}{32}$

2 groups of 32 is 64 + 1 = 65

DIVISION: The 3 examples from slide 2 into your math scribbler to complete.

1. **Whole Number ÷ Fraction** $4 \div \frac{1}{2} = 4 \times {}^{2}/_{1} = 4 \times 2 = 8$

2. **Fraction ÷ Fraction** $\frac{1}{2} \div \frac{1}{4} = \frac{1}{2} \times \frac{4}{1} = \frac{4}{2} = 2$

3. **Mixed Number fractions ÷ Mixed Number fraction** $2\frac{1}{2} \div 3\frac{1}{4}$

$$2\frac{1}{2} \div 3\frac{1}{4} = \frac{5}{2} \div \frac{13}{4} = \frac{5}{2} \times \frac{4}{13} = \frac{20}{26} = \frac{10}{13}$$

Dividing Fractions – You won't forget how!

1) https://www.youtube.com/watch?v=nMZJKGyu-Kk – **Watch** this video to help you remember the steps in dividing fractions.

2) Dividing by a fraction (2nd number is a fraction) , here is a small « quote » that may help you remember the process:

« **When dividing by a fraction**

Don't ask why

Flip that sucker and multiply! »

Solve the following equations in your scribbler. Simplify your answer.
Ask your teacher to check your answers when you have solved them all before moving on.

1. $3 \div \frac{1}{2} =$

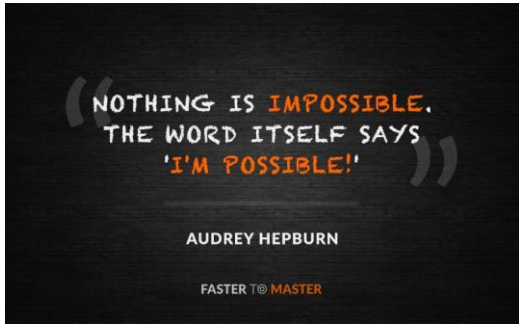
2. $4 \div 2\frac{1}{3} =$

3. $4\frac{2}{3} \div \frac{2}{3} =$

4. $\frac{1}{4} \div \frac{2}{3} =$

5. $\frac{1}{2} \div 3\frac{1}{5} =$

6. $\frac{3}{4} \div 2 =$



Practice

- Dividing fractions. (symbolically)

Complete the following questions in your scribbler.

page 133 # 9

page 139 # 4, 8

page 145 # 4, # 5, 11

You will need to simplify your answers

*** Remember to correct your answers using the math book.**

Journal Question N6 # 7

Practice - Worksheets

Complete the following worksheets one at a time.

- **Worksheet 3.5 –** Dividing Whole Numbers and Fractions (pages 58 and 59 in the Practice and Homework Book)
- **Worksheet 3.6 –** Dividing Fractions (pages 60 and 61 in the Practice and Homework Book)
- **Worksheet 3.7 –** Dividing Mixed Numbers (pages 62 and 63 in the Practice and Homework Book)

Journal Question N6 # 8

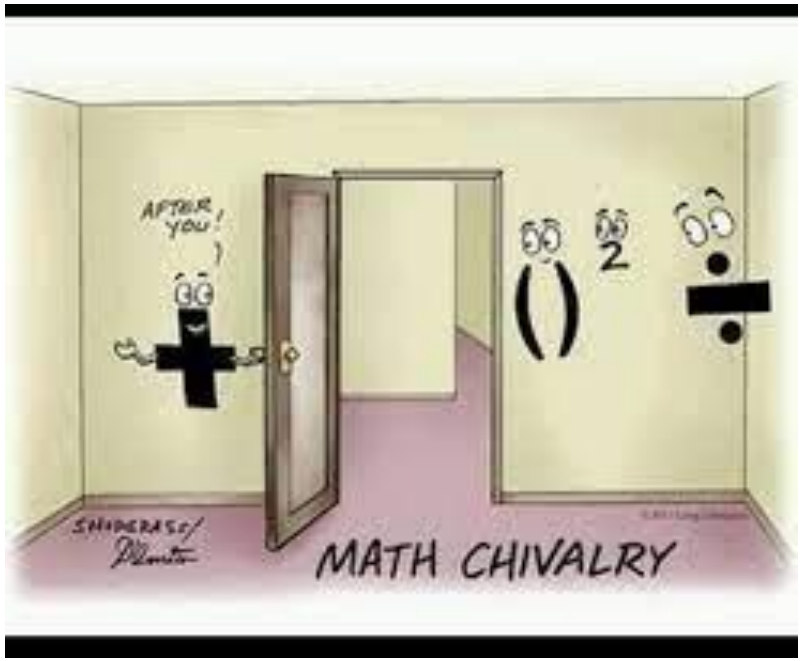
Order Of Operations With FRACTIONS

1) Watch the following video on order of operations involving fractions.
https://www.youtube.com/watch?v=ro6yRADn3Mw

2) **Copy** the steps in your scribbler.
- -Do the operations in **brackets** first.
- -**Divide/Multiply** in order from left to right.
- -**Add/Subtract** in order from left to right.

3) **Read** *Examples 1* and *2* on page 154 in your textbook.

4) **Worksheet 3.9 – Order of Operations with Fractions**
(pages 67 and 68 in the Practice and Homework Book)



Journal Question N6 # 9