

Fractions, Decimals, Percents

Adding and Subtracting Fractions

Rules:

- 1) Find the lowest common denominator. (LCD)
- 2) Rename the fractions having the LCD.
- 3) Add or subtract the numerators.
- 4) Leave the denominator the same.
- 5) Simplify.

Practice.

$$1. \frac{9}{8} - \frac{3}{8} = \frac{6}{8} \text{ Reduce! } \frac{6}{8} \div 2 = \boxed{\frac{3}{4}}$$

Reduce!

$$2. \frac{1}{8} + \frac{13}{8} = \frac{14}{8} \div 2 = \boxed{\frac{7}{4}}$$

$$3. \frac{7}{4} - \frac{1 \times 2}{2 \times 2} = \frac{7}{4} - \frac{2}{4} = \boxed{\frac{5}{4}}$$

LCD:

4: ~~4~~, 8, 12, 16...

2: 2, ~~4~~, 6...

$$4. -5 + \frac{1}{9} = \frac{-5 \times 9}{1 \times 9} + \frac{1}{9} = \frac{-45}{9} + \frac{1}{9} = \boxed{\frac{-44}{9}}$$

LCD: 1: 1, 2, 3, 4, 5, 6, 7, 8, **9**...

9: **9**, 18

Fractions, Decimals, Percents

Multiplying Fractions

Rules:

- 1) Make fractions improper
- 2) multiply straight across
- 3) Simplify.

Make Improper Fractions

- Multiply the denominator by the whole number.
- Then add that to the numerator.
- Put the new numerator over the same denominator.

$$1\frac{1}{2} = \underset{\times}{1 \times 2} + \frac{1}{2} = \boxed{\frac{3}{2}}$$

$$2\frac{4}{5} = \underset{\times}{2 \times 5} + \frac{4}{5} = \boxed{\frac{14}{5}}$$

$$9\frac{1}{3} = \underset{\times}{9 \times 3} + \frac{1}{3} = \boxed{\frac{28}{3}}$$

Multiply.

$$\frac{3 \rightarrow 5}{4 \rightarrow 11} = \boxed{\frac{15}{44}}$$

Fractions, Decimals, Percents

Dividing Fractions

Rules:

- 1) make fractions improper
- 2) change division to multiplying by reciprocal (keep, change, Flip)
- 3) Multiply straight across
- 4) Simplify

Practice.

$$\frac{1}{7} \div \frac{5}{8} = \frac{1}{7} \xrightarrow{\text{keep}} \frac{1}{7} \xrightarrow{\text{change}} \frac{8}{5} \xrightarrow{\text{Flip}} \frac{8}{5} = \boxed{\frac{8}{35}}$$

$$\frac{3}{8} \div 2 = \frac{3}{8} \xrightarrow{\text{keep}} \frac{3}{8} \xrightarrow{\text{change}} \frac{1}{2} = \boxed{\frac{3}{16}}$$

= $\frac{3}{4} \times \frac{1}{2} = \frac{3}{8}$

Examples:

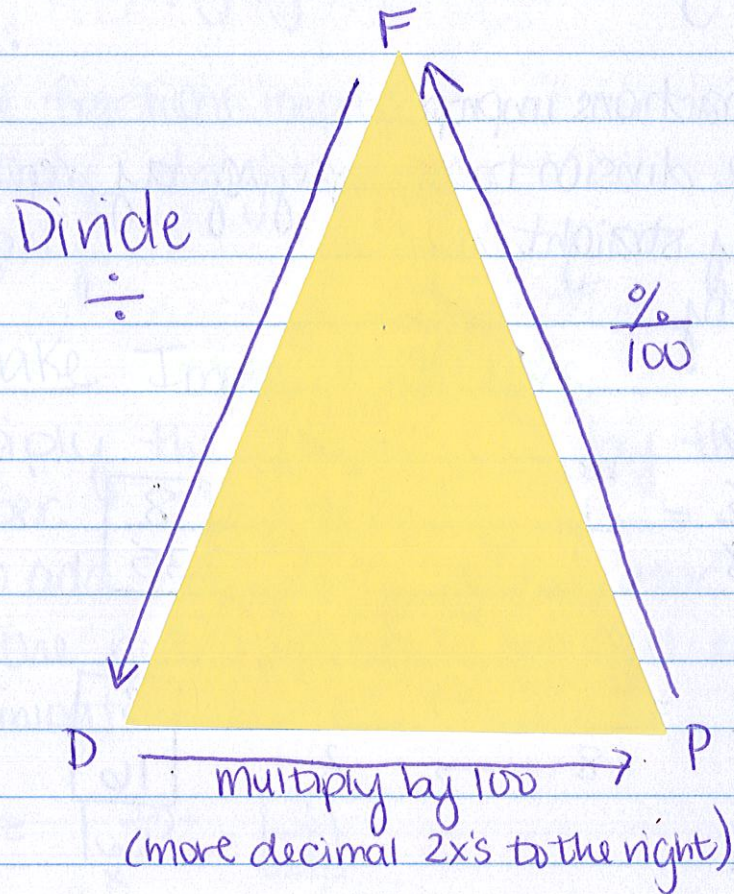
$$1) \frac{5}{8} \cdot \frac{2}{7} = \frac{5 \cdot 2}{8 \cdot 7} = \frac{10}{56} \xrightarrow{\text{Reduce!}} \frac{5}{28} = \boxed{\frac{5}{28}}$$

$$2) \frac{7}{9} \div \frac{1}{3} = \frac{7}{9} \xrightarrow{\text{K}} \frac{7}{9} \xrightarrow{\text{C}} \frac{3}{1} \xrightarrow{\text{F}} \frac{21}{9} \div 3 = \boxed{\frac{7}{3}}$$

$$3) 4\frac{1}{2} \times 6\frac{2}{5} = 4\frac{1 \cancel{5}^1}{2} \times 6\frac{2 \cancel{5}^1}{5} = \frac{9}{2} \cdot \frac{32}{5} = \frac{288}{10} \div 2 = \boxed{\frac{144}{5}}$$

$$4) 4\frac{2}{3} \div 2\frac{1}{4} = 4\frac{2 \cancel{3}^1}{3} \div 2\frac{1 \cancel{4}^1}{4} = \frac{14}{3} \div \frac{9}{4} = \frac{14}{3} \cdot \frac{4}{9} = \boxed{\frac{56}{27}}$$

Converting Fractions, Decimals, and Percents



\curvearrowright

	F	D	P
1)	$\frac{23}{50}$.46	46%
2)		1.35	135%

WORK

$$\begin{array}{r}
 1) \quad 50 \overline{)23100} \\
 \underline{-2000} \\
 300 \\
 \underline{-300} \\
 0
 \end{array}$$

F \rightarrow D

$$.46 = 46\%$$

D \rightarrow P

$$\begin{array}{l}
 D \rightarrow P \\
 2) \quad 1.35 = \frac{1.35}{1} = 135\% \\
 P \rightarrow F
 \end{array}$$

$$\frac{\%}{100} = \frac{135}{100} \div 5 = \frac{27}{20}$$