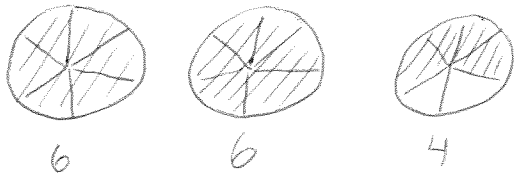


# Fraction Memory Aid

## Mixed to Improper

$$2\frac{4}{6} = 6 \times 2 = 12 + 4 = \frac{16}{6}$$



$$6 + 6 + 4 = 16 \text{ sixths}$$

## Improper to Mixed

$$\frac{16}{6} = 16 \div 6$$

← whole number

$$6 \overline{)16}$$

denominator  $\frac{4}{4}$  ← remainder is the numerator

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

## Fraction → Decimal

$$\frac{2}{5} = 2 \div 5 \quad 5 \overline{)2.0}$$

## Decimal to Fraction

.40 say to yourself forty hundredths. You write the <sup>number and</sup> place value you read aloud and write it.

$$\frac{40}{100} = \frac{4}{10} = \frac{2}{5}$$

## Equivalent Fractions

$$\frac{3}{5} = \frac{12}{20}$$

multiply or divide the numerator or denominator by the same number

## Reducing Fractions

$$\frac{45}{95} = \frac{9}{19}$$

Divide the numerator and denominator by the same number.

## Comparing Fractions - order from LARGEST ↔ SMALLEST

$$\frac{5}{6}, \frac{9}{12}, \frac{2}{3}, \frac{6}{8}$$

method 1: Find a common denominator

$$\frac{20}{24}, \frac{18}{24}, \frac{16}{24}, \frac{18}{24}$$

LARGEST  $\frac{5}{6}, \frac{9}{12}$  and  $\frac{18}{24}, \frac{2}{3}$  smallest

$$\frac{5}{6}, \frac{9}{12}, \frac{2}{3}, \frac{6}{8}$$

method 2: turn fractions to decimals. numerator ÷ by denominator

$$\frac{5}{6}, \frac{9}{12} \text{ and } \frac{18}{24}, \frac{2}{3}$$

# Operations on Fractions \* turn mixed to improper

	Rule	Example 1	Example 2
+ / - adding + subtracting	1- Find a common denominator (LCD) 2- Rename fractions 3- add / subtract numerators only and write over denominator. 4- Reduce	$2\frac{3}{5} + 6\frac{4}{5}$ $\frac{13}{5} + \frac{34}{5}$ $= \frac{47}{5}$ $= 9\frac{2}{5}$	$4\frac{3}{10} - 2\frac{1}{2}$ $= \frac{43}{10} - \frac{5}{2}$ $= \frac{43}{10} - \frac{25}{10}$ $= \frac{18}{10} = 1\frac{8}{10} = 1\frac{4}{5}$
x multiplication	1- multiply the numerator by the numerator. 2- multiply the denominator by the denominator. 3- Reduce  * whole numbers are fractions over 1	$\frac{4}{5} \times \frac{15}{16}$ $= \frac{4 \times 15}{5 \times 16}$ $= \frac{60}{80}$ $= \frac{3}{4}$	$2\frac{1}{2} \times 3\frac{2}{5}$ $= \frac{5}{2} \times \frac{17}{5}$ $= \frac{5 \times 17}{2 \times 5}$ $= \frac{85}{10}$ $= 8\frac{5}{10} = 8\frac{1}{2}$
- / . Division	1- multiply by the reciprocal of the second fraction. 2- Reduce  use KCF Keep: 1st Fraction Change: $\div$ to $\times$ Flip: 2nd Fraction	$\frac{6}{7} \div \frac{9}{14}$ <small>reciprocal means flip the numerator and denominator</small> $= \frac{6}{7} \times \frac{14}{9}$ $= \frac{84}{63}$ $= 1\frac{21}{63} = 1\frac{1}{3}$	$4\frac{1}{2} \div 5\frac{1}{4}$ $= \frac{9}{2} \div \frac{21}{4}$ $= \frac{9}{2} \times \frac{4}{21}$ $= \frac{36}{42}$ $= \frac{6}{7}$
Exponents and BEDMAS	Exponents: Multiply the fraction by itself the number of times to match the exponent.	$\left(\frac{1}{3}\right)^2$ $= \left(\frac{1}{3}\right) \times \left(\frac{1}{3}\right)$ $= \frac{1}{9}$	$\left(\frac{1}{4}\right)^3$ $= \frac{1}{4} \times \frac{1}{4} \times \frac{1}{4}$ $= \frac{1}{64}$
			$\frac{1}{4} \times \left(\frac{1}{2} + \frac{2}{3}\right)$ $= \frac{1}{4} \times \left(\frac{3}{6} + \frac{4}{6}\right)$ $= \frac{1}{4} \times \frac{7}{6}$ $= \frac{7}{24}$