

Lesson 5 continued :

Oct 7<sup>th</sup>, 2022

Locating Fractions w/ Different Denominators on # Line

ex. Plot  $\frac{1}{4}$   ~~$\frac{1}{12}$~~  and  $\frac{1}{3}$

must have same denominator

$$\frac{1}{4} \times \frac{3}{3} = \frac{3}{12}$$

$$\frac{1}{3} \times \frac{4}{4} = \frac{4}{12}$$

Recall: Fractions must remain equivalent to original version

simplify:

rewrite:

$$\frac{3}{6} \div \frac{2}{2} = \frac{1}{2}$$

$$\frac{3}{6} \times \frac{2}{2} = \frac{6}{12}$$

smaller.

$$\frac{3}{12}$$

$$\frac{4}{12}$$

1 unit = 6 cm

subdivided by 12



0	$\frac{3}{12}$	$\frac{4}{12}$	1
	"	"	
	$\frac{1}{4}$	$\frac{1}{3}$	
	"	"	
	0.25	0.3	

You do:  $\frac{4}{6}$

Plot:  $\frac{2}{3} \times \frac{2}{2}$  and  $\frac{1}{2} \times \frac{3}{3}$   
 0.6                      0.5

$\therefore \frac{6}{12} = 0.5$   
 go up by

Plot

$$\frac{3}{5} \times \frac{8}{8} = \frac{24}{40} \quad \frac{1}{8} \times \frac{5}{5} = \frac{5}{40}$$

$$\frac{24}{40} \quad \frac{5}{40}$$

Same base, yes but too big subdivision.

How to optimize this process?

Optimizing the Location of Fractions  
w different bottoms on # line

step i: see if can simplify

step ii: find biggest denominator: 8

step iii: Determine if other denominators of divisors / factors of biggest.

$\frac{8}{2} = 4 \therefore 2 \text{ is divisor}$   $\frac{8}{4} = 2 \therefore 4 \text{ is factor}$

ex. Plot

$$\frac{1}{2} \quad \frac{3}{4} \quad \frac{5}{8}$$

$$\frac{1}{2} \times 4 \quad \frac{3}{4} \times 2$$

$$2 \times 4 \quad 4 \times 2$$

$$\frac{4}{8} \quad \frac{6}{8} \quad \frac{5}{8}$$

step iv.  
 • Then, biggest denominator is common denominator

CD = 8

step v.  
 Convert to equivalent fractions

• Then, take multiples of the biggest denominator to find lowest common multiple (LCM) of all denominators

step i: see if can simplify

step ii: find biggest denominator: 8

step iii: Determine if other denominators of divisors/factors of biggest.

$\frac{8}{3} = 2.6$  not divisor  $\frac{8}{6} = 1.3$

ex Plot

$\frac{1}{3} \quad \frac{1}{8} \quad \frac{5}{6}$

multiples  
 $8 \times 1 = 8$

$8 \times 2 = 16$

$8 \times 3 = 24$   
 ↳ LCM of all denominator

step iv.

Then, biggest denominator is common denominator

CD = 8

step v.

Convert to equivalent fractions

Then, take multiples of the biggest denominator to find lowest common multiple (LCM) of all denominators

take LCM as the common denominator. = 24

$\frac{8 \times 1}{8 \times 3} \quad \frac{1 \times 3}{8 \times 3} \quad \frac{5 \times 4}{6 \times 4}$   
 $\frac{8}{24} \quad \frac{3}{24} \quad \frac{20}{24}$

} proper fraction less than 1.

You do:

Ex 5.2 on page 5.28 until end

