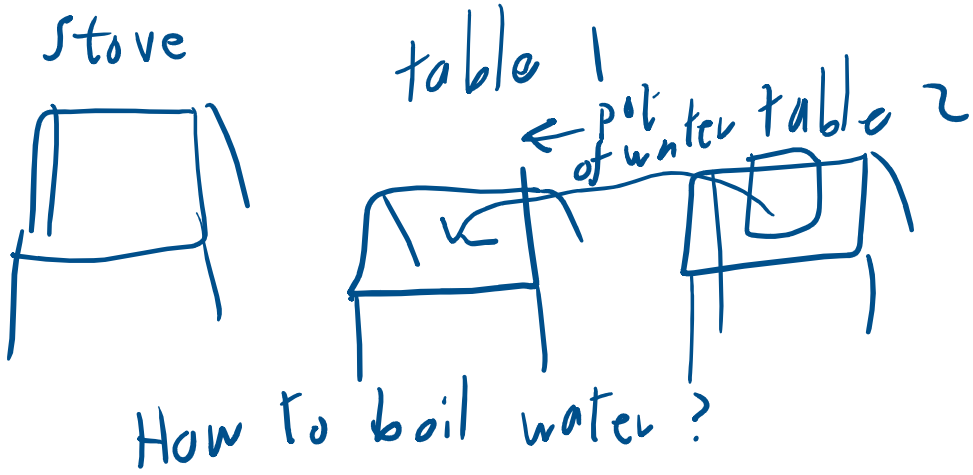
02-23-26 MDE 10

Chapter 3 - Adding and Subtracting Fractions
3.1 Adding and Subtracting Like Fractions
3.1 Exercise Set, page 180: 1, 5, 11, 19, 30, 44

3.2 Least Common Multiple
3.2 Exercise Set, page 190:1, 3, 17, 35,49

Exam 1		stem & leaf		
68.64286	mean			A- 2
15.1739	st.dev	9	13	B - 2
63	median	8	35	C - 2
45	min	7	27	D - 4
93	max	6	1333	F - 4
14	count	5	89	
		4	58	



3.1
Memorize

Adding Like Fractions (Fractions with the Same Denominator)

To add like fractions, add the numerators and write the sum over the common denominator.

Adding Like Fractions (Fractions with the Same Denominator)

To add like fractions, add the numerators and write the sum over the common denominator.

If a, b, and c represent nonzero whole numbers, we have

$$\frac{a}{c} + \frac{b}{c} = \frac{a+b}{c}$$

$$\frac{2}{3} + \frac{5}{3} = \frac{2+5}{3} = \boxed{\frac{7}{3}} = 2\frac{1}{3}$$

$$3\overline{)7} \quad 2\frac{1}{3}$$
$$\underline{6}$$
$$1$$

Memorize

Subtracting Like Fractions (Fractions with the Same Denominator)

To subtract like fractions, subtract the numerators and write the difference over the common denominator.

If a, b, and c represent nonzero whole numbers, then

$$\frac{a}{c} - \frac{b}{c} = \frac{a-b}{c}$$

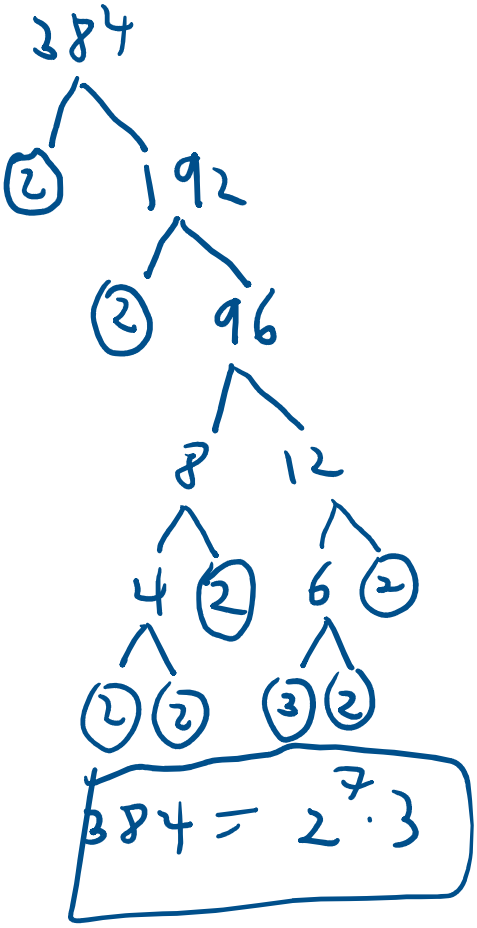
$$\frac{8}{5} - \frac{3}{5} = \frac{8-3}{5} = \frac{5}{5} = 1$$

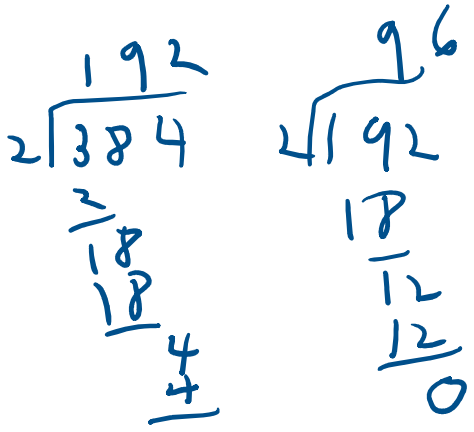
$$\boxed{\frac{a}{c} \pm \frac{b}{c} = \frac{a \pm b}{c}}$$

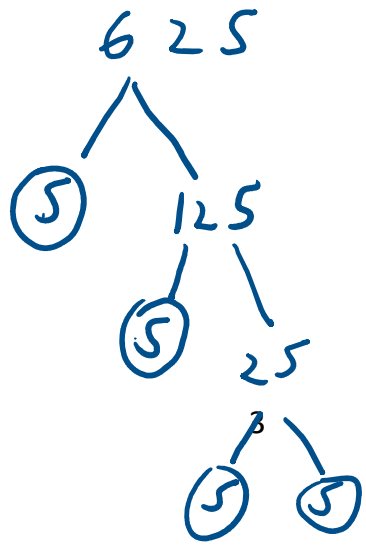
combine the two formulas

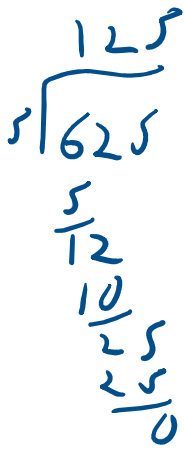
$\pm$ = plus or minus

$\frac{384}{625}$ reduce to lowest terms









$\frac{384}{625} = \frac{2^7 \cdot 3}{5^4}$

$625 = 5^4$

Already reduced!

$\frac{2^3 \cdot 3^4 \cdot 7}{2 \quad -2}$

$$\frac{2 \cdot 3 \cdot 7}{2^2 \cdot 7^2}$$

$$= \left(\frac{2 \cdot 2 \cdot 2}{2 \cdot 2}\right)\left(3^4\right)\left(\frac{7}{7 \cdot 7}\right)$$

$$= \frac{2 \cdot 3^4}{7} = \frac{(2)(3 \cdot 3)(3 \cdot 3)}{7} = \frac{2(9)(9)}{7} = \frac{2(81)}{7}$$

$$= \boxed{\frac{162}{7}}$$

LCM = least common multiple

Memorize the procedure

Find LCM (8, 12)

$8 \times 1 = 8$	$12 \times 1 = 12$
$8 \times 2 = 16$	$12 \times 2 = 24$
$8 \times 3 = 24$	$12 \times 3 = 36$
$8 \times 4 = 32$	$12 \times 4 = 48$
$8 \times 5 = 40$	$12 \times 5 = 60$
$8 \times 6 = 48$	

$LCM(8, 12) = 24$

It is a common multiple of 8 and 12

48 is a common multiple of 8 and 12, but it is not the LCM.

Memorize

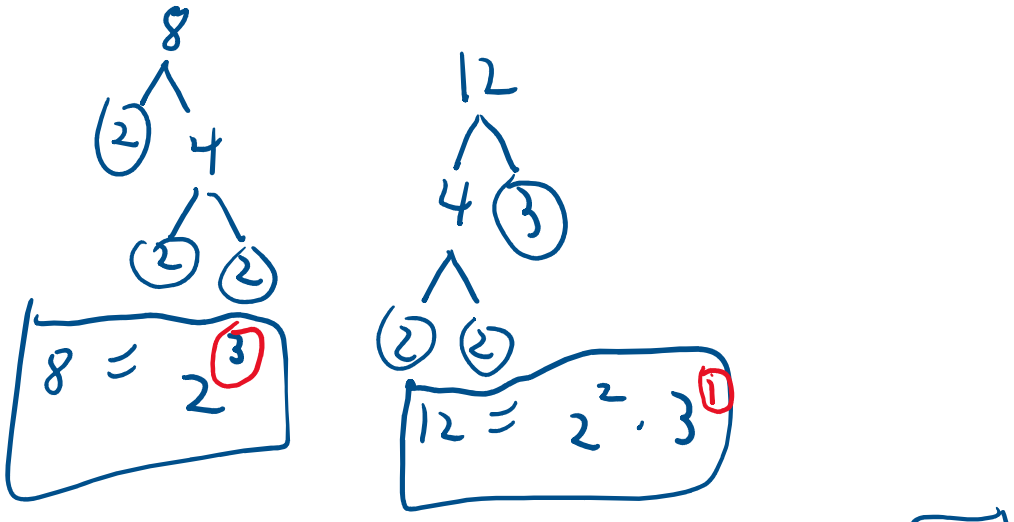
Method 2: Finding the LCM of a List of Numbers Using Prime Factorization

Step 1: Write the prime factorization of each number.

Step 2: For each different prime factor in step 1, circle the greatest number of times that factor occurs in any one factorization.

Step 3: The LCM is the product of the circled factors.

Find LCM(8, 12)



LCM(8, 12) = $2^3 \cdot 3 = 8 \cdot 3 = 24$

Objective C *Write each fraction or whole number as an equivalent fraction with the given denominator. See Examples 8 through 10.*

36. $6 = \frac{60}{10}$

37. $5 = \frac{15}{3}$

44. $\frac{4}{5} = \frac{36}{45}$

$= \frac{(4)(9)}{(5)(9)} = \frac{4}{5}$

$\frac{4}{5} = \frac{x}{45}$

$\Leftrightarrow \quad 5x = (4)(45)$

$x = \frac{(4)(45)}{5}$

$x = (4)(9)$

$\boxed{x = 36}$

52. $\frac{19}{21} = \frac{x}{126}$

$21x = (19)(126)$

$x = \frac{(19)(126)}{21}$

$x = (19)(6)$

21×6

$= 20 \times 6$

$+ 1 \times 6$

120

$+ 6$

126

Scientific Notebook I had SN factor each number

$$364 = 2^2 7 \times 13$$

$$364^2 = 132\,496 = 2^4 7^2 13^2$$