Warm Up Grade 8

Nov 16, 2023

1) Reduce the following fractions

a) $\frac{36 \div 6}{48 \div 6} = \frac{6 \div 2}{8 \div 2} = \frac{3}{4}$ b) $\frac{250 \div 10}{300 \div 10} = \frac{25 \div 5}{30 \div 5} = \frac{5}{6}$

2) Rewrite the following an improper fraction $3\frac{4}{9} = \frac{31}{9}$

$3 \times 9 = 27$

add top

$+4$

31

3) Rewrite the following as a mixed fraction in lowest terms $\frac{124}{10} = 12\frac{4}{10}$ Reduce $\frac{\div 2}{\div 2}$

$12\frac{2}{5}$

$\frac{18}{7} = 2\frac{4}{7}$

$\frac{25}{2} = 12\frac{1}{2}$

Sheet 173

1a) $\frac{9}{8} = 1\frac{1}{8}$

b) $\frac{14}{3} = 4\frac{2}{3}$

c) $\frac{15}{8} = 1\frac{7}{8}$

d) $\frac{21}{5} = 4\frac{1}{5}$

e) $\frac{21}{8} = 2\frac{5}{8}$

f) $\frac{13}{4} = 3\frac{1}{4}$

g) $\frac{33}{10} = 3\frac{3}{10}$

h) $\frac{103}{100} = 1\frac{3}{100}$

2a) $1\frac{1}{3} = \frac{4}{3}$

b) $3\frac{1}{4} = \frac{13}{4}$

c) $5\frac{1}{2} = \frac{11}{2}$

d) $2\frac{3}{10} = \frac{23}{10}$

e) $3\frac{7}{8} = \frac{31}{8}$

f) $2\frac{7}{6} = \frac{19}{6}$

g) $1\frac{1}{100} = \frac{101}{100}$

h) $4 = \frac{20}{5}$

3a) $\frac{6}{4} = 1\frac{2}{4}$ or $1\frac{1}{2}$

b) $\frac{18}{12} = 1\frac{6}{12}$ or $1\frac{1}{2}$

c) $\frac{28}{8} = 3\frac{4}{8}$ or $3\frac{1}{2}$

d) $\frac{38}{10} = 3\frac{8}{10}$ or $3\frac{4}{5}$

e) $\frac{170}{100} = 1\frac{70}{100}$ or $1\frac{7}{10}$

f) $\frac{64}{6} = 10\frac{4}{6}$ or $10\frac{2}{3}$

g) $\frac{60}{15} = 4$

h) $\frac{138}{20} = 6\frac{18}{20}$ or $6\frac{7}{10}$

5. $\frac{55}{4} = 13\frac{3}{4}$ games of football

b. $\frac{10}{3} = 3\frac{1}{3}$ games of hockey

10. a) $\frac{230}{690} = \frac{23}{69}$ or $\frac{1}{3}$

b) $\frac{345}{690} = \frac{69}{138} = \frac{23}{46} = \frac{1}{2}$

c) $\frac{460}{690} < \frac{46}{69} = \frac{2}{3}$

d) $\frac{805}{690} = \frac{161}{138}$ or $1\frac{23}{138}$

11. a) $\frac{30}{60} = \frac{1}{2}$

b) $\frac{20}{60} = \frac{10}{30} = \frac{1}{3}$

c) $\frac{45}{60} < \frac{9}{12} = \frac{3}{4}$

d) $\frac{75}{60} = \frac{15}{12} = \frac{5}{4}$ or $1\frac{1}{4}$

e) $\frac{90}{60} = \frac{9}{6} = \frac{3}{2}$ or $1\frac{1}{2}$

f) $\frac{140}{60} < \frac{14}{6} = \frac{7}{3}$ or $2\frac{1}{3}$

Adding & Subtracting Fraction

same denominators

-When adding fractions WITH COMMON denominators, just add the numerators (leave the denominator the same) ....ALWAYS REDUCE solution

$\frac{5}{12} + \frac{3}{12} = \frac{8}{12}$ Reduce ÷4 ÷4 $= \frac{2}{3}$

-When subtracting fractions WITH COMMON denominators, just subtract the numerators (leave the denominator the same) ....ALWAYS REDUCE solution

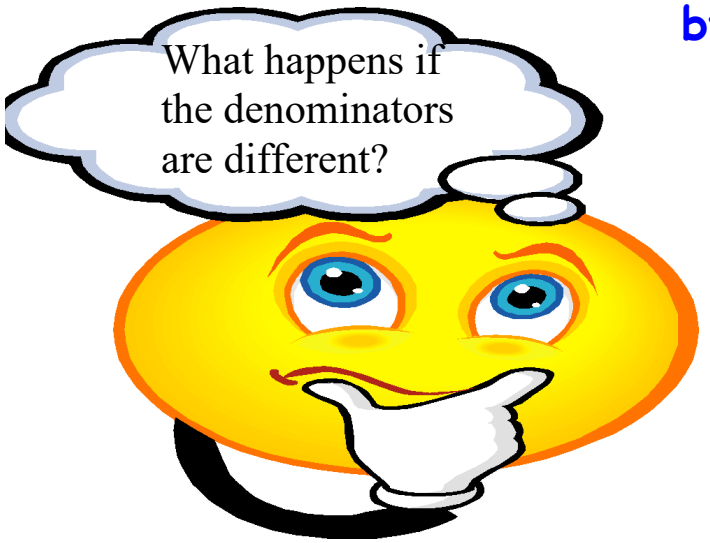
$\frac{19}{21} - \frac{9}{21} = \frac{10}{21}$

Adding & Subtracting Fraction

DIFFERENT denominators

You can add or subtract fraction with different denominators as long as you find equivalent fractions with the same denominators first. Then simply add (or subtract) the numerators and the denominators will stay the same.

*Find common denominators



Find a

by determining the LCM.

L owest

C ommon

M ultiple

$\frac{3}{4} \times 3 + \frac{5}{6} \times 2$

Find the LCM first!

Multiples of 4 and 6:

4 | 4, 8, 12, 16

6 | 6, 12, 18

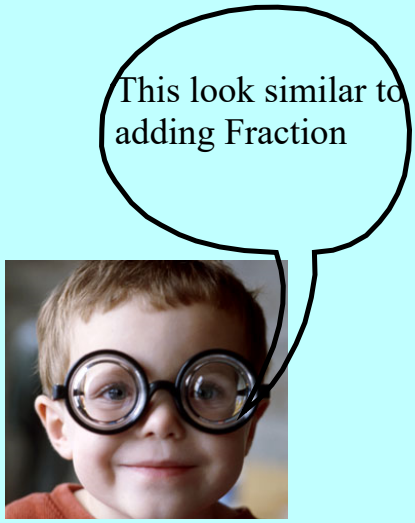
$= \frac{9}{12} + \frac{10}{12}$

$= \frac{19}{12}$

$= 1\frac{7}{12}$

When subtracting fractions you must have a ...

Common Denominator



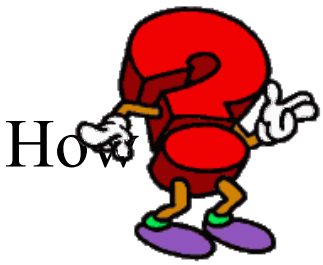
Ex) $\frac{13}{7} - \frac{4}{7} = \frac{9}{7} = 1\frac{2}{7}$

Same Denominators

Oh, what to do when the denominators are different???

I Know this one!!!!

When denominators are different you have to find a **"common denominator"**



By determining the LCM

Lowest Common Multiple

(of the denominators)

Subtract the following rational numbers

$\frac{13}{7} - \frac{4}{3}$

Look at the multiples of each denominator

Find the LCM

7

1 x 7 = 7

2 x 7 = 14

3 x 7 = 21

4 x 7 = 28

3

1 x 3 = 3

2 x 3 = 6

3 x 3 = 9

4 x 3 = 12

5 x 3 = 15

6 x 3 = 18

7 x 3 = 21

Thus the LCM is

1) $\frac{17}{12} - \frac{4}{9}$

2) $\frac{2}{7} - \frac{5}{28}$

You try

No modelling

a) $\frac{2}{3} + \frac{4}{9}$

$\frac{6}{9} + \frac{4}{9} = \frac{10}{9} = 1\frac{1}{9}$

b) $\frac{5}{8} + \frac{1}{6}$

$\frac{15}{24} + \frac{4}{24}$

$= \frac{19}{24}$

c) $\frac{9}{10} - \frac{2}{3}$

$\frac{27}{30} - \frac{20}{30}$

$= \frac{7}{30}$

d) $\frac{2}{9} + \frac{5}{6}$

$\frac{4}{18} + \frac{15}{18}$

$\frac{19}{18}$

$= 1\frac{1}{18}$

You try

No modelling

a) $\frac{2}{3} + \frac{4}{9}$

$\frac{6}{9} + \frac{4}{9} = \frac{10}{9}$

b) $\frac{5}{8} + \frac{1}{6}$

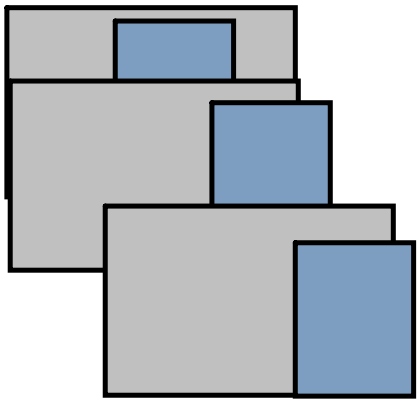
$\frac{15}{24} + \frac{4}{24} = \frac{19}{24}$

c) $\frac{9}{10} - \frac{2}{3}$

$\frac{27}{30} - \frac{20}{30} = \frac{7}{30}$

d) $\frac{2}{9} + \frac{5}{6}$

$\frac{4}{18} + \frac{15}{18} = \frac{19}{18}$



Homework

Sheet 151 #1-6

Draw #1 b, d, f, g

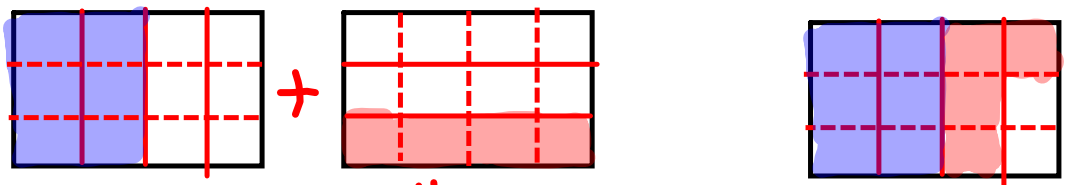
#2 b, d, g

Class/Homework

Sheet 151 # 1 to #6

(ONLY USE RULES NO MODELING)

$\frac{2}{4} + \frac{1}{3}$



$\frac{6}{12} + \frac{4}{12} = \frac{10}{12}$

Sheet-Daffy Definitions

1. $\frac{15}{2} = 7\frac{1}{2}$

2. $\frac{8}{3} = 2\frac{2}{3}$

3. $\frac{21}{5} = 4\frac{1}{5}$

4) $\frac{9}{3} = 3$

5) $\frac{14}{3} = 4\frac{2}{3}$

6) $\frac{10}{2} = 5$

7) $\frac{22}{7} = 3\frac{1}{7}$

8) $\frac{36}{8} = 4\frac{4}{8}$ or $4\frac{1}{2}$

9) $\frac{13}{9} = 1\frac{4}{9}$

10) $\frac{22}{6} = 3\frac{4}{6}$ or $3\frac{2}{3}$

11) $\frac{72}{8} = 9$

12) $\frac{100}{60} = 2$

13) $\frac{43}{7} = 6\frac{1}{7}$

14) $\frac{34}{5} = 6\frac{4}{5}$

15) $\frac{33}{10} = 3\frac{3}{10}$

16) $\frac{22}{16} = 1\frac{6}{16}$ or $1\frac{3}{8}$

17) $\frac{42}{15} = 2\frac{12}{15}$ or $2\frac{4}{5}$

18) $\frac{31}{10} = 3\frac{1}{10}$

Attachments

Grade 8 Sheet 151 Adding_Subtracting Fractions.pdf