Warm Up Grade 7

__ days until

1) Answer the following

a) $\frac{7}{15} + \frac{5}{6}$ (×2, ×5)

$\frac{14}{30} + \frac{25}{30}$

$\frac{39}{30} = 1\frac{9}{30} = 1\frac{3}{10}$

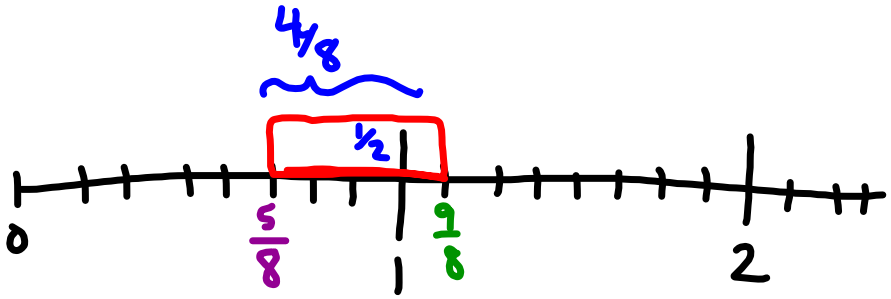
b) $\frac{9}{3} - \frac{1}{4}$ (×3, ×4)

$\frac{27}{12} - \frac{4}{12} = \frac{23}{12} = 1\frac{11}{12}$

2) Draw a number line that uses fraction strips that model

$\frac{9}{8} - \frac{1}{2} = \_\_\_$

$\frac{9}{8} - \frac{4}{8} = \frac{5}{8}$



Extra Practice 4.

1) a) $\frac{5}{6} - \frac{4}{6}$

$\frac{1}{6}$

b) $\frac{2}{5} - \frac{1}{5}$

$\frac{1}{5}$

c) $\frac{9}{10} - \frac{7}{10}$

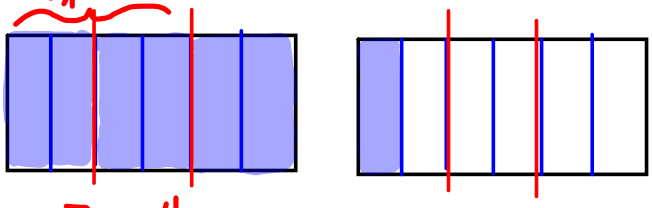
$\frac{2}{10} = \frac{1}{5}$

d) $\frac{7}{8} - \frac{5}{8}$

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

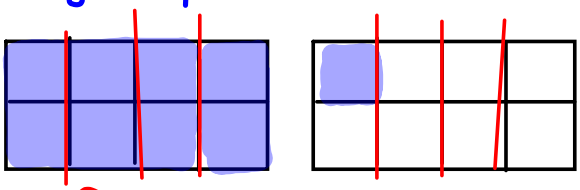
2 a) $\frac{7}{6} - \frac{2}{3}$

2 1



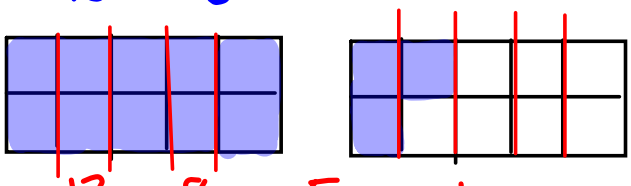
$\frac{7}{6} - \frac{4}{6} = \frac{3}{6}$

b) $\frac{9}{8} - \frac{3}{4}$



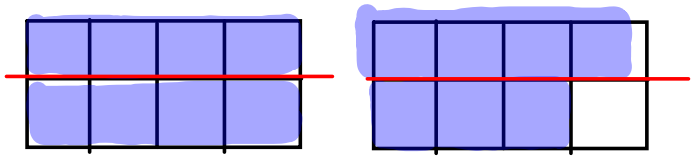
$\frac{9}{8} - \frac{6}{8} = \frac{3}{8}$

c) $\frac{13}{10} - \frac{4}{5}$



$\frac{13}{10} - \frac{8}{10} = \frac{5}{10}$ or $\frac{1}{2}$

d) $\frac{15}{8} - \frac{3}{2}$



$\frac{15}{8} - \frac{12}{8} = \frac{3}{8}$

3. a) $\frac{7}{8} - \frac{2}{3}$

$\frac{21}{24} - \frac{16}{24}$

$\frac{5}{24}$

b) $\frac{6}{5} - \frac{1}{3}$

$\frac{18}{15} - \frac{5}{15}$

$\frac{13}{15}$

c) $\frac{5}{4} - \frac{1}{3}$

$\frac{15}{12} - \frac{4}{12}$

$\frac{11}{12}$

d) $\frac{3}{5} - \frac{1}{4}$

$\frac{12}{20} - \frac{5}{20}$

$\frac{7}{20}$

Homework Practice 4 #4, 5
Practice 5 #1-6

4. Brandy spent $\frac{1}{10}$ of her summer vacation reading, $\frac{1}{15}$ watching her favourite movies, $\frac{1}{3}$ visiting her grandparents, and twice the reading time playing with her friends.

a) What is the difference in the fractions Brandy spent with her grandparents and playing with her friends?

b) Did she spend more time reading or watching movies? Explain your thinking.

c) Did Brandy have time to do anything else beside these activities? Explain your thinking.

a) Friend $\frac{2}{10}$ $\quad \frac{1}{3} - \frac{2}{10}$

$\frac{10}{30} - \frac{6}{30} = \frac{4}{30}$

$= \frac{2}{15}$

b) Reading $\frac{1}{10}$ TV $\frac{1}{15}$

$\frac{1}{10} = \frac{3}{30}$ and $\frac{1}{15} = \frac{2}{30}$ so $\frac{1}{10}$ is greater

Both have 1 piece and tenth are bigger pieces, so $\frac{1}{10}$ is greater

c) $\frac{1}{10} + \frac{1}{15} + \frac{1}{3} + \frac{2}{10}$

$\frac{3}{30} + \frac{2}{30} + \frac{10}{30} + \frac{6}{30} = \frac{21}{30}$

Yes Brandy did have time for other activities

5. Glenn has $\frac{5}{8}$ of a cup of walnuts.

He needs $\frac{2}{3}$ of a cup of walnuts to make a loaf of banana bread.

Does Glenn have enough?
If your answer is yes, explain why it is enough.
If your answer is no, how much more does Glenn need?

$\frac{5}{8} = \frac{15}{24}$ $\frac{2}{3} = \frac{16}{24}$

No, Glenn needs $\frac{1}{24}$ of a cup more.

Ex Prac 5

1. Subtract.

a) $\frac{7}{12} - \frac{5}{12}$ b) $\frac{5}{6} - \frac{2}{6}$ c) $\frac{3}{10} - \frac{1}{10}$ d) $\frac{2}{3} - \frac{1}{3}$

$\frac{2}{12} = \frac{1}{6}$ $\frac{3}{6} = \frac{1}{2}$ $\frac{2}{10} = \frac{1}{5}$ $\frac{1}{3}$

2. Subtract.
Estimate first.

a) $\frac{4}{6} - \frac{3}{8} \approx \frac{1}{8}$

$\frac{16}{24} - \frac{9}{24}$

$\frac{7}{24}$

b) $\frac{5}{6} - \frac{5}{9} \approx$ less than $\frac{1}{2}$

$\frac{30}{36} - \frac{20}{36} = \frac{10}{36}$

$= \frac{5}{18}$

c) $\frac{3}{4} - \frac{1}{6} \approx \frac{1}{2}$

$\frac{18}{24} - \frac{4}{24}$

$\frac{14}{24} = \frac{7}{12}$

d) $\frac{3}{2} - \frac{5}{6} \approx \frac{1}{2}$

$\frac{9}{6} - \frac{5}{6}$

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

3. Subtract.
Estimate first.

a) $\frac{4}{5}-\frac{1}{4}$ $\approx \frac{1}{2}$

$\frac{16}{20}-\frac{5}{20}$

$\frac{11}{20}$

b) $\frac{9}{10}-\frac{2}{3}$ $\approx \frac{1}{3}$

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

$\frac{7}{30}$

c) $\frac{7}{4}-\frac{8}{5}$

$\frac{35}{20}-\frac{32}{20}$

$\frac{3}{20}$

d) $\frac{5}{3}-\frac{9}{8}$

$\frac{40}{24}-\frac{27}{24}$

$\frac{13}{24}$

c) $1\frac{3}{4}-1\frac{3}{5}$
close to 0
$\frac{1}{10}$

d) $1\frac{2}{3}-1\frac{1}{8}$
a little more than $\frac{1}{2}$

4. Two-fifths of the students in a class voted for a trip to the zoo.
One-third voted for a trip to the museum.

a) Which trip had more votes?

b) What is the difference of the fractions?

c) What fraction of the class did not vote?

a) $\frac{2}{5}=\frac{6}{15}$ $\frac{1}{3}=\frac{5}{15}$

The trip to the zoo had more votes.

b) $\frac{2}{5}-\frac{1}{3}$

$\frac{6}{15}-\frac{5}{15}=\frac{1}{15}$

d) $\frac{2}{5}+\frac{1}{3}$

$\frac{6}{15}+\frac{5}{15}=\frac{11}{15}$

so $\frac{4}{15}$ did not vote

5. Write as many different subtraction questions as you can where the answer is $\frac{7}{8}$.

$\frac{7}{8} = \frac{14}{16} = \frac{21}{24} = \frac{28}{32}$

$\frac{8}{8} - \frac{1}{8}$ $\quad \frac{15}{16} - \frac{1}{16}$ $\quad \frac{29}{32} - \frac{1}{32}$

$\frac{9}{8} - \frac{2}{8}$ $\quad \frac{17}{16} - \frac{3}{16}$ $\quad \frac{23}{24} - \frac{2}{24}$

$\frac{10}{8} - \frac{3}{8}$ $\quad \frac{19}{16} - \frac{5}{16}$ $\quad \frac{22}{24} - \frac{1}{24}$

6. On Saturday, Charla played the piano for $\frac{2}{6}$ h.

On Sunday, Charla increased the time she played by $\frac{1}{3}$ h.

On Saturday, Devon played the violin for $\frac{2}{3}$ h.

On Sunday, Devon increased the time he played by $\frac{2}{12}$ h.

a) Who played longer on Sunday?

b) For how much longer did this person play?

Sunday

a) Charla $\quad \frac{2}{6} + \frac{1}{3}$

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

Devon $\quad \frac{2}{3} + \frac{2}{12}$

$\frac{8}{12} + \frac{2}{12} = \frac{10}{12} = \frac{5}{6}$

b) Devon played $\frac{2}{12}$ longer on Sunday

$\frac{5}{6} - \frac{4}{6} = \frac{1}{6}$ longer

Mixed Numbers and Improper Fractions

A mixed number contains a whole and a fraction, $8\ \frac{1}{2}$, $2\ \frac{5}{7}$

An improper fraction is when the numerator is greater than the denominator,
Ex) $\frac{15}{7}$, $\frac{9}{2}$

To change a mixed number to an improper fraction, multiply the whole number by the denominator, then add the numerator to your answer. This will give the numerator for
the improper fraction, and the denominator always stays the same.

Ex 1) $8\ \frac{1}{3}$ add
x ↳
$8 \times 3 = 24$
$24 + 1 = 25$ (numerator)

$= \frac{25}{3}$

Ex 2) $2\ \frac{5}{7}$
$2 \times 7 = 14$
$14 + 5 = 19$ (numerator)

$= \frac{19}{7}$

To change an improper fraction to a mixed number, divide the numerator by the denominator, the answer will be the whole number part of the mixed number, and the remainder will be the numerator of the mixed number. The denominator stays the same.

Ex 1) $\frac{15}{7}$ $15 \div 7 = 2$ Remainder 1 $2\ \frac{1}{7}$

Ex 2) $\frac{9}{2}$ $9 \div 2 = 4$ remainder 1 $4\ \frac{1}{2}$

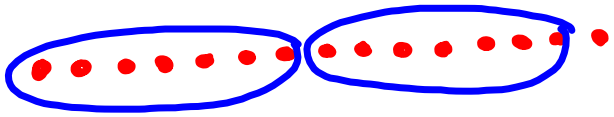
Write the following as improper fractions:

(a) $2\ \frac{3}{7}$ add
x ↳
$\frac{17}{7}$

(b) $4\ \frac{1}{6}$ $\frac{25}{6}$

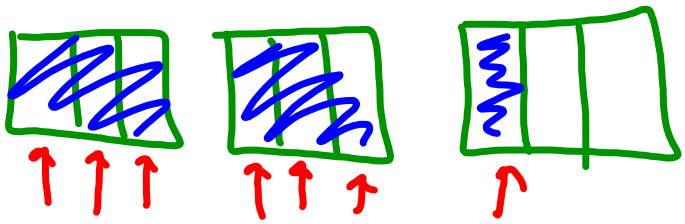
(c) $3\ \frac{4}{9}$ $\frac{31}{9}$

$\frac{15}{7}$ ← ÷ 2 full $\frac{1}{7}$ Remainder



$15 \div 7 = 2\ R1$

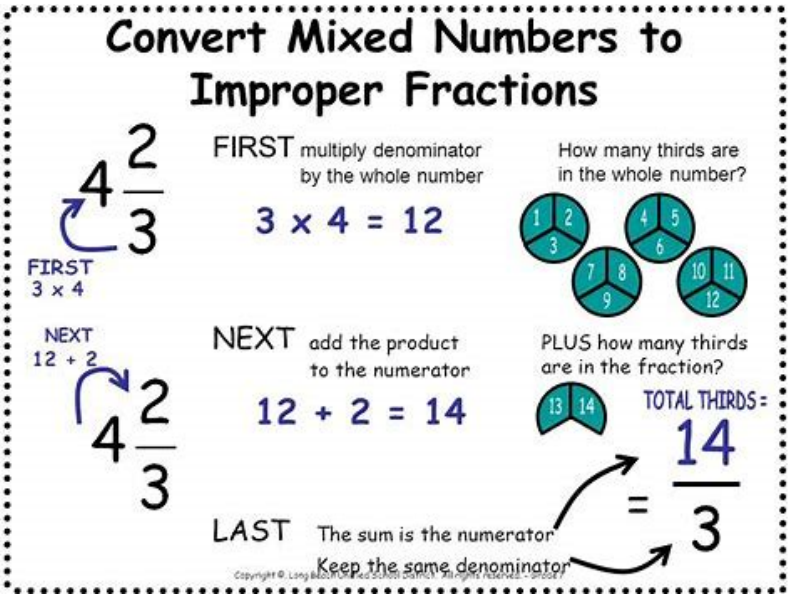
$2\frac{1}{3}$



$2\frac{1}{3} = \frac{7}{3}$

Recall from grade 6

How to convert from mixed to improper without modelling...



Convert from mixed to improper without modelling...

You try

a) $5\frac{1}{6}$ $\frac{31}{6}$

b) $3\frac{2}{7}$ $\frac{23}{7}$

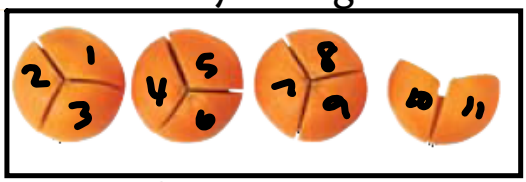
c) $6\frac{5}{8}$ $\frac{53}{8}$

bottom# ← is how many pieces it takes to make a whole

1) How many fruit bars are shown?

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

2) How many oranges are shown?



$3\frac{2}{3} = \frac{11}{3}$

3) Write a mixed number for each picture.

$1\frac{3}{4} = \frac{7}{4}$

How to convert Improper to mixed....

Recall from grade 6

Remember Fractions are related to division (Grouping)

$\frac{18}{7}$

Means if I have 18 pieces, how many full groups of 7 will I have?

7 goes into 18 -->

$2\frac{4}{7}$

$2 \times 7 = 14$

$18 - 14 = 4$ Remainder

$\frac{18}{7} =$

full groups part of the remaining group

So Improper to mixed is division with a remainder

Don't really have to model

You try

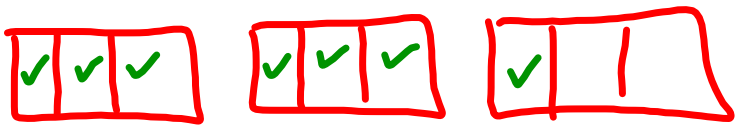
Convert the improper fractions to mixed

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

Model

Mixed Numbers and Improper Fractions

$\frac{7}{3}$ $2\frac{1}{3}$



$\frac{15}{4}$ $3\frac{3}{4}$

$2\ \frac{2}{5}$ $\frac{12}{5}$

$1\frac{5}{8}$ $\frac{13}{8}$

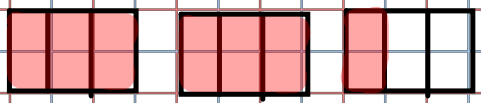
How do you write a mixed number as an improper fraction?

How do you write an improper fraction as a mixed number?

See Notes

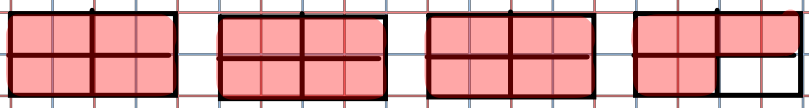
Mixed Numbers and Improper Fractions

$\frac{7}{3}$



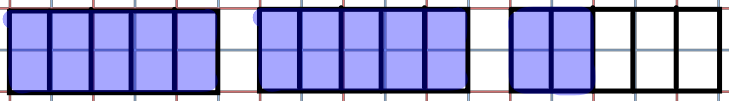
$2\frac{1}{3}$

$\frac{15}{4}$



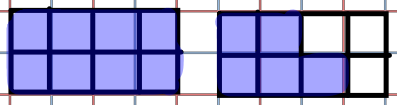
$3\frac{3}{4}$

$2\frac{2}{5}$



$\frac{12}{5}$

$1\frac{5}{8}$



$\frac{13}{8}$

How do you write a mixed number as an improper fraction?

How do you write an improper fraction as a mixed number?

Write the following as improper fractions:

(a) $2\frac{3}{7}$ $\frac{17}{7}$

(b) $4\frac{1}{6}$ $\frac{25}{6}$

(c) $3\frac{4}{9}$ $\frac{31}{9}$

Write the following as mixed numbers:

(a) $\frac{14}{3}$ $4\frac{2}{3}$

(b) $\frac{21}{5}$ $4\frac{1}{5}$

(c) $\frac{11}{4}$ $2\frac{3}{4}$

Class / Homework

Sheet Improper to Mixed # 1-18

Sheet 173 # 1-7

Attachments

Mixed to Impoper (Daffy Definitions).pdf

Grade 7 Unit 5 Fractions WS 173 (Mixed & Improper).pdf