MrF

GRADE 10 ESSENTIAL
UNIT X – FRACTIONS
SUBTRACTING MIXED NUMBERS

Name:_____
Date: _____

Subtracting mixed numbers is similar to adding except that sometimes instead of making an extra whole amount when two fraction parts are added, we need to borrow from a whole amount to subtract the fraction parts.

Subtraction (mixed numerals)

No borrow

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

$-1\frac{1}{6} \rightarrow -1\frac{1}{6}$

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

Rename the numbers so the fractions have the same denominator.
Subtract the fractions.
Subtract the whole numbers.
Change to simplest form.

with borrow!
"Cash in" one whole amount. $3 \rightarrow 2\frac{4}{4}$

$3 \rightarrow 2\frac{4}{4}$

$-\frac{1}{4} \rightarrow -\frac{1}{4}$

$2\frac{3}{4}$

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

Write each answer in simplest form.

Don't forget it is easy to check subtraction by Adding Up

	a	b	c
1.	$7 \rightarrow 6\frac{4}{4}$ $-\frac{3}{4}$ $-\frac{3}{4}$ $6\frac{1}{4}$ Check	$4 \rightarrow 4\frac{2}{2} \rightarrow 3\frac{2}{2}$ $-\frac{1}{2}$ $-0\frac{1}{2}$ $-0\frac{1}{2}$ $3\frac{1}{2}$	5 $-\frac{2}{3}$
2.	$3\frac{4}{5}$ $-1\frac{1}{2}$	$5\frac{2}{3}$ $-3\frac{4}{9}$	$4\frac{5}{6} \rightarrow 4\frac{5}{6}$ $-1\frac{1}{2}$ $-1\frac{3}{6}$ $3\frac{2}{6} = 3\frac{1}{3}$
3.	5 $-\frac{3}{5}$	$6\frac{3}{4}$ $-5\frac{1}{8}$	$2\frac{2}{3}$ $-1\frac{1}{2}$

No Borrow necessary here

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4. $10\frac{5}{6} - 7\frac{5}{12}$ $\qquad$ $8 - \frac{5}{8}$ $\qquad$ $9\frac{5}{6} - 2\frac{1}{3}$

Rename the numbers so the fractions have the same denominator.

Rename $3\frac{3}{12}$ so you can subtract the fractions.

$3\frac{1}{4} \rightarrow 3\frac{3}{12} \rightarrow 2\frac{15}{12}$

$-1\frac{5}{6} \rightarrow -1\frac{10}{12} \rightarrow -1\frac{10}{12}$

$1\frac{5}{12}$

$3\frac{3}{12} = 2 + 1\frac{3}{12}$
$= 2 + \frac{15}{12}$
$= 2\frac{15}{12}$

Rename $4\frac{5}{10}$ so you can subtract the fractions.

$4\frac{1}{2} \rightarrow 4\frac{5}{10} \rightarrow 3\frac{15}{10}$

$-1\frac{3}{5} \rightarrow -1\frac{6}{10} \rightarrow -1\frac{6}{10}$

$2\frac{9}{10}$

$4\frac{5}{10} = 3 + 1\frac{5}{10}$
$= 3 + \frac{15}{10}$
$= 3\frac{15}{10}$

Write each answer in simplest form.

Need lots of borrows these ones!

	a	*b*	*c*
1.	$2\frac{1}{2} - 1\frac{3}{4}$	$5\frac{1}{4} - 4\frac{1}{3}$	$7\frac{3}{4} - 3\frac{5}{6}$
2.	$8\frac{3}{8} - 1\frac{7}{8}$	$5\frac{1}{4} - 4\frac{3}{4}$	$3\frac{7}{12} - 1\frac{3}{4}$

Cash in $1 = \frac{12}{12}$ $\qquad$ $\frac{12+9}{12}$

$7\frac{9}{12}$ $\qquad$ $6\frac{21}{12}$

$-3\frac{10}{12}$ $\qquad$ $-3\frac{10}{12}$

$3\frac{11}{12}$

Check! Add up

$4\frac{1}{6} - 2\frac{3}{8}$

See me if you want lots more practice questions. Make sure you know how to do fractions on a calculator too! Some calculators make it very easy!