Name Answer key Date _____ Period ____

Notes on Mixed Numbers

1. Adding Mixed Numbers
   Steps to adding mixed numbers

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

1) Find common denominator (use LCM) LCM of 3 & 4 = 12

2) Convert fractions $\frac{2}{3} = \frac{8}{12}$ (×4) $\quad \frac{3}{4} = \frac{9}{12}$ (×3) $\rightarrow 1\frac{8}{12} + 2\frac{9}{12}$

3) add fractions & whole numbers

$1 + 2 = 3 \quad \frac{8}{12} + \frac{9}{12} = \frac{17}{12}$

4) Combine/reduce/convert $17/12 = 1\frac{5}{12} + 3 = 4\frac{5}{12}$

PRACTICE

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

b. $5\frac{8}{9} + 2\frac{11}{18}$ $8\frac{1}{2}$

c. $3\frac{2}{3} + 1\frac{5}{8}$ $5\frac{7}{24}$

d. $10\frac{3}{5} + 9$ $19\frac{3}{5}$

2. Subtracting mixed numbers (no borrowing)
   Steps to subtracting mixed numbers

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

1) Find a common denominator LCM of 3 & 4 = 12

2) Convert fractions $\frac{3}{4} = \frac{9}{12} \quad \frac{2}{3} = \frac{8}{12} \rightarrow 2\frac{9}{12} - 1\frac{8}{12}$

3) Subtract fractions & whole #s

$2 - 1 = 1 \quad \frac{9}{12} - \frac{8}{12} = \frac{1}{12}$

4) Combine/reduce/convert $1 + \frac{1}{12} = 1\frac{1}{12}$

PRACTICE

a. $1\frac{1}{2} - \frac{1}{4}$ $1\frac{1}{4}$

b. $6\frac{6}{7} - 3\frac{11}{14}$ $3\frac{1}{14}$

c. $4\frac{2}{3} - 1\frac{3}{8}$ $3\frac{7}{24}$

d. $7\frac{3}{5} - 6\frac{1}{2}$ $1\frac{1}{10}$

Name_____ Date_____ Period____

3. Subtracting mixed numbers (borrowing) $2\frac{2}{3} - 1\frac{3}{4}$

Steps to subtracting mixed numbers

1) Find common denominator (use LCM) 3 & 4 = 12

2) Convert fractions $\frac{2}{3} = \frac{8}{12}$ $\frac{3}{4} = \frac{9}{12}$ → $2\frac{8}{12} - 1\frac{9}{12}$

3) Borrow from whole # $2 = 1 + \frac{12}{12}$ $\frac{12}{12} + \frac{8}{12} = \frac{20}{12}$

$1\frac{20}{12} - 1\frac{9}{12}$

4) Subtract fractions & subtract whole #'s $1 - 1 = 0$ $\frac{20}{12} - \frac{9}{12} = \frac{11}{12}$

5) reduce / combine / convert $11/12$

PRACTICE

a. $1\frac{1}{2} - \frac{3}{4}$ $\frac{3}{4}$

b. $5\frac{2}{5} - 3\frac{9}{10}$ $1\frac{1}{2}$

c. $4\frac{2}{3} - 1\frac{7}{8}$ $2\frac{19}{24}$

d. $7\frac{3}{5} - 6\frac{2}{3}$ $\frac{14}{15}$

4. Multiplying mixed numbers $2\frac{2}{3} \times 1\frac{3}{4}$

Steps to multiplying mixed numbers (option 1)

1. Convert all mixed #'s to improper fractions

$2\frac{2}{3} = \frac{8}{3}$ $1\frac{3}{4} = 7/4$

2. multiply across

$\frac{8}{3} \times \frac{7}{4} = \frac{56}{12}$

3. reduce / convert $\frac{56}{12} \div 4 = \frac{14}{3} = 4\frac{2}{3}$

PRACTICE

a. $1\frac{1}{2} \times \frac{2}{3}$ 1

b. $2\frac{3}{4} \times 3\frac{1}{4}$ $8\frac{15}{16}$

c. $2\frac{2}{5} \times 1\frac{3}{4}$ $4\frac{1}{5}$

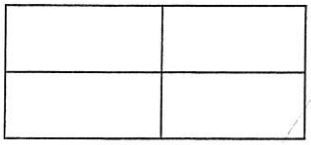
d. $4\frac{1}{3} \times 5\frac{1}{2}$ $23\frac{5}{6}$

Name_____ Date_____ Period____

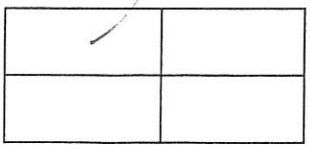
Steps to multiplying mixed numbers (option 2)

PRACTICE

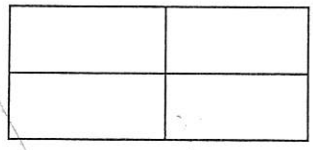
a. $1\frac{1}{3} \times 2\frac{3}{4}$



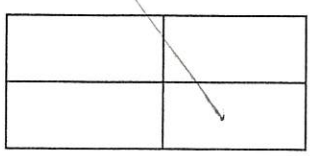
b. $3\frac{1}{2} \times 4\frac{1}{4}$



c. $\frac{2}{3} \times 1\frac{3}{5}$



d. $3\frac{3}{8} \times 1\frac{1}{2}$



Name Answer key Date _____ Period ____

PRACTICE

a. $\frac{3}{4} \times 2\frac{8}{9} = \frac{3}{4} \times \frac{26}{9} = \frac{78}{36} = 2\frac{1}{6}$

b. $1\frac{2}{3} \times \frac{6}{7} = \frac{5}{3} \times \frac{6}{7} = \frac{30}{21} = 1\frac{9}{21}$

c. $3\frac{1}{3} \times 5\frac{1}{2}$ $\frac{10}{3} \times \frac{11}{2} = \frac{110}{6} = 18\frac{1}{3}$

d. $2\frac{3}{5} \times 2\frac{2}{3}$ $\frac{13}{5} \times \frac{8}{3} = \frac{104}{15} = 6\frac{14}{15}$

e. $\frac{1}{5} + 2\frac{2}{7}$

$\frac{7}{35} + 2\frac{10}{35} = 2\frac{17}{35}$

f. $1\frac{5}{6} + \frac{2}{3}$

$1\frac{5}{6} + \frac{4}{6} = 1\frac{9}{6} = 2\frac{3}{6} = 2\frac{1}{2}$

g. $3\frac{2}{3} + 7\frac{1}{9}$

$3\frac{6}{9} + 7\frac{1}{9} = 10\frac{7}{9}$

h. $4\frac{3}{5} + 2\frac{2}{3}$

$4\frac{9}{15} + 2\frac{10}{15} = 6\frac{19}{15} = 7\frac{4}{15}$

i. $5\frac{2}{3} - 3\frac{1}{2}$

$5\frac{4}{6} - 3\frac{3}{6} = 2\frac{1}{6}$

j. $2\frac{2}{3} - 2\frac{1}{5}$

$2\frac{10}{15} - 2\frac{3}{15} = \frac{7}{15}$

k. $5\frac{3}{4} - 2\frac{7}{8}$

$5\frac{6}{8} - 2\frac{7}{8}$

$4\frac{14}{8} - 2\frac{7}{8} = 2\frac{7}{8}$

l. $4\frac{6}{7} - 3\frac{8}{9}$

$4\frac{36}{63} - 3\frac{56}{63}$

$3\frac{99}{63} - 3\frac{56}{63} = \frac{43}{63}$