

Name: Key Hour: _____ Date: _____

NOTES: Fraction Review

Goals: #1 - I can add/subtract fractions with common denominators.

#2 - I can add/subtract fractions with unlike denominators.

#3 - I can multiply/divide fractions.



Homework: All About Fractions Worksheet

Warm Up:

1. Add/subtract the following fractions. Write the answer as a fraction or a mixed number in simplest form.

a. $\frac{5}{12} + \frac{3}{12}$
 $\frac{8 \div 4}{12 \div 4} = \boxed{\frac{2}{3}}$

b. $\frac{4}{9} - \frac{1}{9}$
 $\frac{3 \div 3}{9 \div 3} = \boxed{\frac{1}{3}}$

2. Find the least common denominator (LCD) of $\frac{1}{3}, \frac{8}{17}$

$3 \cdot 17 = \boxed{51}$

3. Write $3\frac{2}{5}$ as an improper fraction.

$\frac{3(5) + 2}{5}$
 $\boxed{\frac{17}{5}}$

Review:

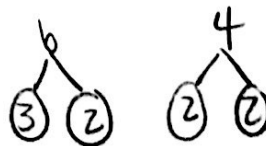
When adding and subtraction fractions with unlike denominators, we need to find a common denominator of the two fractions.

The least common denominator (LCD) of two fractions is the least common multiple (LCM) of their denominators.

Example:

LCD of $\frac{5}{6}, \frac{1}{4}$

LCM of 6 = 4



LCM = $3 \times 2 \times 2$
LCD = $\boxed{12}$

Example #1: Add or subtract. Write the answer as a fraction or a mixed number in simplest form.

a. $\frac{7}{10} + \frac{1}{3}$

b. $4\frac{3}{8} - 2\frac{5}{6}$

LCD: 30
 $\frac{7}{10} = \frac{21}{30}$
 $\frac{1}{3} = \frac{10}{30}$

$\frac{21}{30} + \frac{10}{30}$
 $= \frac{31}{30}$
 $= 1\frac{1}{30}$

① $\frac{4(8)+3}{8}$
 $= \frac{35}{8}$
 $\frac{2(6)+5}{6}$
 $= \frac{17}{6}$

② LCD: 24
 $\frac{35}{8} = \frac{105}{24}$
 $\frac{17}{6} = \frac{68}{24}$

③ $\frac{105}{24} - \frac{68}{24}$
 $= \frac{37}{24}$
 $= 1\frac{13}{24}$

Let's practice! Add or subtract. Write the answer as a fraction or a mixed number in simplest form.

1. $\frac{15}{24} - \frac{7}{12}$ LCD: 24

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

$\frac{15}{24} - \frac{14}{24}$
 $= \frac{1}{24}$

2. $\frac{3}{7} + \frac{3}{4}$ LCD: 28

$\frac{3}{7} = \frac{12}{28}$
 $\frac{3}{4} = \frac{21}{28}$

$\frac{12}{28} + \frac{21}{28}$
 $= \frac{33}{28}$
 $= 1\frac{5}{28}$

3. $4\frac{5}{8} - 1\frac{3}{16}$

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

① $\frac{4(8)+5}{8}$
 $= \frac{37}{8}$

② LCD: 16
 $\frac{37}{8} = \frac{74}{16}$

③ $\frac{74}{16} - \frac{19}{16}$
 $= \frac{55}{16}$
 $= 3\frac{7}{16}$

① $\frac{9(5)+2}{5}$
 $= \frac{47}{5}$
 $\frac{3(3)+1}{3}$
 $= \frac{10}{3}$

② LCD: 15
 $\frac{47}{5} = \frac{141}{15}$
 $\frac{10}{3} = \frac{50}{15}$

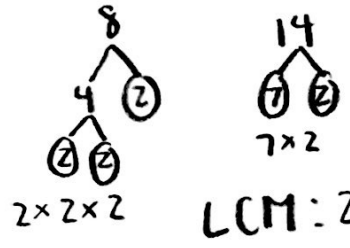
③ $\frac{141}{15} + \frac{50}{15}$
 $= \frac{191}{15}$
 $= 12\frac{11}{15}$

$\frac{1(16)+3}{16}$
 $= \frac{19}{16}$

Warm Up:

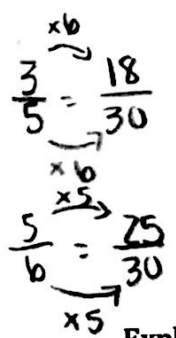
1. Find the least common denominator (LCD) of $\frac{5}{8}, \frac{9}{14}$

LCM: 8, 14



LCD = 56

2. Add or subtract. Write the answer as a fraction or a mixed number in simplest form.



a. $\frac{3}{5} + \frac{5}{6}$ LCD: 30

$$\frac{18}{30} + \frac{25}{30} = \frac{43}{30} = 1\frac{13}{30}$$

① $\frac{3(3)+2}{3} = \frac{11}{3}$
 $\frac{2(4)+1}{4} = \frac{9}{4}$

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

② LCD: 12
 $\frac{11}{3} = \frac{44}{12}$
 $\frac{9}{4} = \frac{27}{12}$

③ $\frac{44}{12} - \frac{27}{12} = \frac{17}{12} = 1\frac{5}{12}$

Exploration #1: Multiply or divide. Write the answer as a fraction or a mixed number in simplest form.

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

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

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

$$\frac{1}{9}$$

c. How do you write the number 16 as a fraction? The number 4 as a fraction?

$$\frac{16}{1}$$

$$\frac{4}{1}$$

d. $16 \div 4 = 4$

$$\frac{16}{1} \div \frac{4}{1} \rightarrow \frac{16}{1} \cdot \frac{1}{4} = \frac{16}{4} = 4$$

Notes:

Multiplying and dividing fractions is actually simpler than adding and subtracting fractions because we DO NOT need common denominators.

Name: _____ Hour: _____ Date: _____

To multiply two fractions, multiply the numerators and multiply the denominators.

Example: $\frac{1}{3} \times \frac{1}{3} = \frac{1 \times 1}{3 \times 3} = \boxed{\frac{1}{9}}$

To divide two fractions, multiply by its reciprocal.

Example: $\frac{16}{1} \div \frac{4}{1} \rightarrow \frac{16}{1} \cdot \frac{1}{4} = \frac{16}{4} = \boxed{4}$

To find the reciprocal of a number, write the number as a fraction. Then flip the numerator and denominator.

Example: $\frac{2}{5} \rightarrow \frac{5}{2}$ (reciprocals) $100 \rightarrow \frac{100}{1} \rightarrow \frac{1}{100}$ (reciprocals)

Example #2: Multiply or divide. Write the answer as a fraction or a mixed number in simplest form.

a. $\frac{3}{4} \times \frac{5}{6} = \frac{3 \times 5}{4 \times 6} = \frac{15}{24} = \boxed{\frac{5}{8}}$

b. $2\frac{1}{2} \div 4\frac{1}{6}$ ② $\frac{5}{2} \div \frac{25}{6}$
 $\frac{2(z)+1}{2} \quad \frac{4(b)+1}{6} \rightarrow \frac{5}{2} \cdot \frac{6}{25}$
 $\frac{5}{2} \quad \frac{25}{6} = \frac{30}{50} = \boxed{\frac{3}{5}}$

Let's practice! Multiply or divide. Write the answer as a fraction or a mixed number in simplest form.

1. $\frac{5}{8} \times \frac{4}{15} = \frac{20}{120} = \frac{2}{12} = \boxed{\frac{1}{6}}$

2. $\frac{4}{5} \div \frac{2}{3} \rightarrow \frac{4}{5} \cdot \frac{3}{2} = \frac{12}{10} = \frac{6}{5} = \boxed{1\frac{1}{5}}$

3. $3 \times 2\frac{5}{9}$
 $\frac{2(9)+5}{9} \quad \frac{3}{1} \cdot \frac{23}{9}$
 $\frac{23}{9} = \frac{69}{9} = \frac{23}{3} = \boxed{7\frac{2}{3}}$

① $\frac{7(5)+1}{5} \quad \frac{2(4)+1}{4} \quad \frac{9}{4}$
 $\frac{36}{5} \quad \frac{9}{4}$
 4. $7\frac{1}{5} \div 2\frac{1}{4}$ ② $\frac{36}{5} \div \frac{9}{4}$ ③ $\frac{36}{5} \cdot \frac{4}{9}$
 $\rightarrow \frac{36}{5} \cdot \frac{4}{9} = \frac{144}{45} = 3\frac{9}{45} = \boxed{3\frac{1}{5}}$