

M8 Ch3 Review

Operations w/ Fractions

Name _____
Blk _____

$\frac{3}{7}$ numerator pieces u have
← means divide
7 denominator pieces in ① whole

Improper Fraction: $\frac{37}{4}$ num > den
(greater than 1 whole)

Mixed Number: $7\frac{8}{9}$ an Integer is a Fraction

$$7\frac{8}{9} \rightarrow \frac{(9 \cdot 7) + 8}{9} \rightarrow \frac{63 + 8}{9} = \frac{71}{9}$$

$$\frac{71}{9} \rightarrow 71 \div 9 = 7 \text{ R } 8 \rightarrow 7\frac{8}{9}$$

Multiplying & Dividing Fractions

$$\frac{3}{4} \times \frac{1}{2} = \frac{3 \times 1}{4 \times 2} = \boxed{\frac{3}{8}} \quad \begin{array}{l} \text{multiply num} \cdot \text{num} \\ \text{multiply den} \cdot \text{den} \end{array}$$

$$\frac{3}{4} \div \frac{1}{2} \rightarrow \frac{3}{4} \times \frac{2}{1} = \boxed{\frac{6}{4} \text{ or } \frac{2}{4} \text{ or } \frac{1}{2}}$$

invert divisor and multiply

Adding & Subtracting Fractions

HW

A
4, 6, 9, 10, 14

B
11, 19, 23

C
12, 13, 28, 29

* Must have the same denominators; if you don't, you must convert one (or both) fractions to equivalent fractions *

$$\frac{1}{4} + \frac{3}{6}$$

A. Find LCM ^{x3} 4: 4, 8, (12), 16, 20, 24
(preferred) 6: 6, (12), 18, 24, 30
_{x2}

A. $\frac{1}{4} \times \frac{3}{3} = \frac{3}{12}$

$$\frac{3}{12} + \frac{6}{12} = \frac{9}{12}$$

$$\frac{3}{6} \times \frac{2}{2} = \frac{6}{12}$$

B. Multiply each denominator by the other denominator
 $4 \times 6 = 24$ $6 \times 4 = 24$

B. $\frac{1}{4} \times \frac{6}{6} = \frac{6}{24}$

$$\frac{6}{24} + \frac{12}{24} = \frac{18}{24}$$

$$\frac{3}{6} \times \frac{4}{4} = \frac{12}{24}$$

$$\frac{9}{12} \propto \frac{18}{24}$$

is proportional or equivalent to

Reducing or Simplifying Fractions

A. Divide both the num & den by the GCF of the num & den (preferred)

B. Repeatedly divide the num & den by: 2, 3, 5, ...

A. $\frac{9}{12} \div \frac{3}{3} = \frac{3}{4}$

$$\frac{18}{24} \div \frac{6}{6} = \frac{3}{4}$$

GCF 9 & 12 is (3)
9: 1 x 9
3 x 3
12: 1 x 12
2 x 6
3 x 4

GCF 18 & 24 is (6)
18: 1 x 18
2 x 9
3 x (6)
24: 1 x 24
2 x 12
3 x 8
4 x (6)

B. $\frac{9}{12} \div \frac{3}{3} = \frac{3}{4}$

$$\frac{18}{24} \div 2 = \frac{9}{12} \div 3 = \frac{3}{4}$$

÷ 2 doesn't work
÷ 3

÷ 2
÷ 3