MIXED NUMBERS

What Is a Mixed Number?

- A mixed number has both a whole number and a fraction. If someone ate a whole cookie and a third of another, 1 1/3 would represent how many cookies were eaten. Other mixed numbers are:

$$4\ 2/3 \quad 3\ 1/7 \quad 1\ 6/9 \quad 7\ 4/5$$

- Mixed numbers can be added, subtracted, multiplied, and divided, but there are several steps in the operations. Each operation has its own set of steps.

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- o Add the whole numbers; include any whole number resulting from adding the fractions.

$$5\ 2/3 + 3\ 5/9 \rightarrow 5\ 6/9 + 3\ 5/9$$

$$6/9 + 5/9 = 11/9 \rightarrow \mathbf{1\ 2/9}$$

$$5 + 3 + 1\ 2/9 = \mathbf{9\ 2/9}$$

- To **subtract** mixed numbers, the **denominators must be the same.**
  - Begin by changing one or both denominators.
  - Subtract the fractions and reduce to lowest terms.
  - Subtract the whole numbers.

$$\mathbf{6}\,\mathbf{11/12} - \mathbf{5}\,\mathbf{¾} =$$

$$7\,11/12 - 5\,9/12 =$$

$$2\,2/12 = \mathbf{2\,1/6}$$

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to improper fractions.

  - An improper fraction has a numerator larger than the denominator: **7/3, 8/5, 22/15**

  - To change a mixed number to an improper fraction, multiply the whole number by the denominator and then add the numerator to the product. The product becomes the new numerator.

Examples:

$$5 \tfrac{1}{2} \rightarrow 11/2$$

$$3\ 6/7 \rightarrow 27/7$$

o   Once the mixed numbers have been changed to improper fractions, multiply the numerators and the denominators.

$$5 \tfrac{1}{2} \times 3\ 6/7 =$$

$$11/2 \times 27/7 = 297/14$$

o   Change the improper fraction to a mixed number by dividing

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Try This!

4 2/10 + **3** 2/5 =

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8 7/8 – **5** 1/3 =

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3 2/1

1 7/8