SIMPLIFIED MATHEMATICS UNIT

SUPPORTING MATH ESSENTIALS 3

Adding and Subtracting Fractions

$$4\frac{2}{3} + 7\frac{3}{5} \quad \& \quad 9\frac{1}{7} - 3\frac{4}{5} =$$

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Grade / Topic Level : Grade 8 - 10

ADDING AND SUBTRACTING LIKE FRACTIONS

In multiplying and dividing fractions, the denominators did not have to be the same. You simply multiplied the numerators and denominators and found the answer. BUT when adding and subtracting fractions we first have to make sure they have the same denominator. When fractions have the same denominator, they are called LIKE fractions. If they don't have the same denominator, we have to change them to make the denominator the same.

Here is the rule for adding and subtracting fractions :

TO ADD AND SUBTRACT FRACTIONS,
THEY MUST HAVE THE SAME DENOMINATOR

Examples of Fractions With the Same Denominator (LIKE Fractions).

STEPS :

First : Add or subtract the numerators. The sum of the two numbers will be the new numerators in the answer.

Then :DO NOT ADD OR SUBTRACT THE DENOMINATORS. Just MOVE the old denominator into the denominator of the answer.

1. $\frac{3}{8} + \frac{1}{8} = \frac{4}{8}$ **The answer is not in lowest terms,** $\frac{4}{8} \div \frac{4}{4} = \frac{1}{2}$ **so we change it to lowest terms :**

2 $\frac{7}{10} - \frac{4}{10} = \frac{3}{10}$ **Subtract the numerators, then just move the denominator over without changing it.**

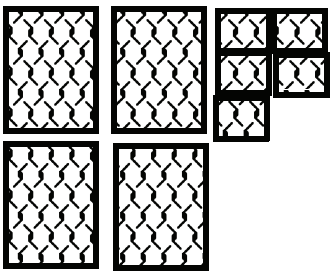
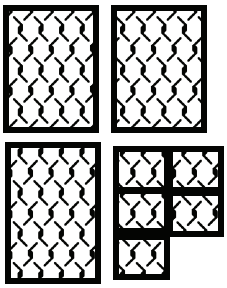
3. $\frac{4}{5} + \frac{3}{5} = \frac{7}{5}$ **The answer is an improper fraction,** $\frac{7}{5} = 1\frac{2}{5}$ **so we change it to a mixed number**

4. $2\frac{3}{7} + 1\frac{1}{7} = 3\frac{4}{7}$ **In this problem, first add the whole numbers, then add the numerators to make the new fraction.**

Here is a more complicated example that needs some pictures to explain it. Once again, pizzas will be used to explain it. But this time the pizzas are square instead of round.

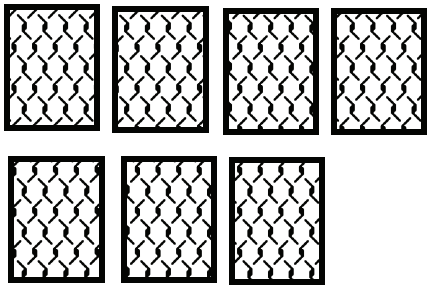
5. $4\frac{5}{6} + 3\frac{5}{6} =$

Step 1

$4\frac{5}{6}$  $+ \; 3\frac{5}{6}$  $=$

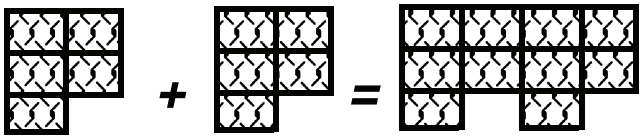
Step 2 **Add the whole numbers & Add the fractions.**

$4 + 3 = 7$ **pizzas**

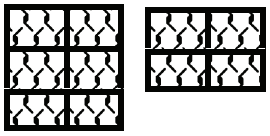


$+$

$\frac{5}{6} + \frac{5}{6} = \frac{10}{6}$ **pizzas**

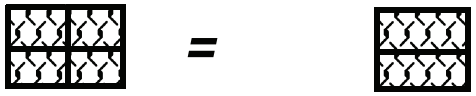


Step 3 **Rearrange the 10/6 into 1 whole (6/6) and 4/6.**



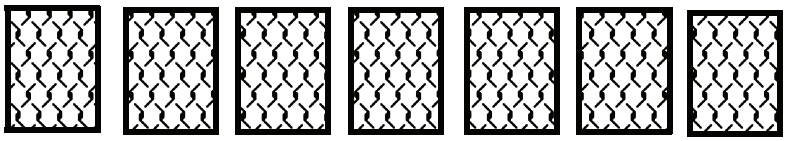
$1(\frac{6}{6}) + \frac{4}{6}$

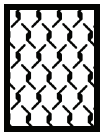
Step 4 **The 4/6 can be reduced to 2/3 by dividing by 2.**



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

Step 5 **Add together the whole pizzas 7 & 1.**





+ **= 8**

Step 6 **Add the whole number (8) and the fraction (2/3) to make the answer :**

$$8 + \frac{2}{3} = 8\frac{2}{3}$$

The answer is a mixed number in lowest terms.

Now try the fraction questions on the next page.

Now You Try : **SHOW ALL OF YOUR WORK**

1) $\frac{5}{11} + \frac{3}{11} =$	7) $7\frac{11}{15} + 8\frac{10}{15} =$
2) $\frac{7}{9} + \frac{8}{9} =$	8) $12\frac{13}{18} + 10\frac{14}{18} =$
3) $\frac{7}{12} + \frac{9}{12} =$	9) $15\frac{17}{20} - 11\frac{12}{20} =$
4) $1\frac{2}{7} + 2\frac{4}{7} =$	10) $7\frac{14}{16} + 5\frac{10}{16} =$
5) $3\frac{8}{11} - 2\frac{4}{11} =$	11) $17\frac{11}{24} - 8\frac{5}{24} =$
6) $4\frac{5}{12} + 3\frac{11}{12} =$	12) $25\frac{27}{35} - 11\frac{12}{35} =$