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Solving Fractions

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Addition and Subtraction of fractions



Addition and Subtraction of fractions - In order to add like fractions or subtract like fractions, we add or subtract their numerators and retain the common denominator.

For example: $\frac{5}{8} + \frac{2}{8} = \frac{7}{8}$

Now to add unlike fractions or subtract unlike fractions, we follow the following steps:

- Obtain the fractions and their denominators.
- Find the Least Common Multiple (LCM) of the denominators.
- Convert each fraction into an equivalent fraction having its denominator equal to the LCM obtained in previous step.
- Add or subtract like fractions obtained.

For example, $\frac{7}{10} + \frac{2}{15}$

LCM of 10 and 15 is (5 X 2 X 3) = 30

So, we convert the given fractions into equivalent fractions with denominator at or 30.

We have, $\frac{7}{10} = \frac{7 \times 3}{10 \times 3} = \frac{21}{30}$ and $\frac{2}{15} = \frac{2 \times 2}{15 \times 2} = \frac{4}{30}$

$\frac{7}{10} + \frac{2}{15} = \frac{21}{30} + \frac{4}{30} = \frac{21+4}{30} = \frac{25}{30} = \frac{5}{6}$

Example 2: Simplify-

$\frac{15}{16} - \frac{11}{12}$

LCM of 16 and 12 = (4 X 4 X 3) = 48

$\frac{15}{16} - \frac{11}{12} = \frac{15 \times 3}{16 \times 3} - \frac{11 \times 4}{12 \times 4} = \frac{45}{48} - \frac{44}{48} = \frac{1}{48}$

Try the following yourself:

1. Add: +

(Answer: 1)

2. Add: +

(Answer:)

3. Subtract: -

(Answer:)

4. Subtract: -

(Answer:)

Multiplication and Division of fractions

Multiplication of fractions - To multiply fraction we use the following formula:

Product of two fractions = Product of their numerators
Product of their denominators

For example: 3 X 4 = 3 X 4 = 12
7 5 7 X 5 35

Try yourself:

1. Multiply: x

(Answer:)

2. Multiply: x

(Answer:)

Division of fractions – The division of a/b by a non-zero fraction c/d is defined as the product of a/b with the multiplicative inverse or reciprocal of c/d.

a ÷ c = a x d
b d b c

For example: 3 ÷ 5 = 3 x 9 = 3 x 9 = 27
5 9 5 5 5 x 5 25

Try yourself:

1. Divide: ÷

(Answer: 1)

2. Divide: ÷

(Answer:)

Now try it yourself! Should you still need any help,click here to schedule live online session with e Tutor!

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Reference Links:

- http://www.aaamath.com/fra57ax2.htm
- http://www.aaamath.com/fra57bx2.htm
- http://www.youtube.com/watch?v=MEo0rSZ4O3w
- http://www.youtube.com/watch?v=T8Lo_cOW0As&feature=related
- http://en.wikipedia.org/wiki/Least_common_multiple
- http://www.aaamath.com/fra66mx2.htm
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