Fractions

A proper fraction is a fraction whose numerator is less than the denominator. For example $\frac{3}{4}$ are proper fractions.

An improper fraction is a fraction whose numerator is more than the denominator. For example, $\frac{7}{4}$ is improper fraction.

A mixed fraction is an improper fraction when expressed as a combination of a whole number and a proper fraction. For example, $2\frac{3}{7}$ are mixed fraction.

Equivalent fractions are those two or more fractions which can be reduced to the same lowest terms.

1. Add the following:

(a) $\frac{7}{8} + \frac{5}{12}$ (b) $3\frac{1}{4} + 1\frac{2}{6}$ c) $7\frac{5}{12} + 4\frac{5}{11}$ d) $11\frac{3}{6} + 10\frac{9}{8}$

2. Subtract the following:

(a) $\frac{3}{4} - \frac{1}{3}$ (b) $2\frac{2}{5} - 1\frac{1}{4}$ c) $4\frac{5}{10} - 3\frac{5}{11}$ d) $14\frac{8}{10} - 4\frac{5}{11}$

3. Arrange in ascending order:

(a) $\frac{2}{3}, \frac{5}{12}, \frac{4}{9}$ (b) $\frac{2}{5}, \frac{1}{7}, \frac{3}{10}$ c) $\frac{7}{5}, \frac{4}{9}, \frac{6}{11}$ d) $\frac{5}{9}, \frac{10}{8}, \frac{12}{10}$

4. Add:

(a) $\frac{2}{3}, 1\frac{7}{12}$ (b) $2\frac{1}{4} + 3\frac{2}{5}$ (c) $1\frac{3}{8} + 4\frac{1}{4}$s

5. Renu had Rs$25\frac{3}{5}$. She got Rs $6\frac{1}{5}$ from her father and spent rs $18\frac{2}{3}$ on food. How much money does she have now?

6. Ricky finished her homework in $\frac{5}{12}$ hour and Babli finished her homework in $\frac{3}{4}$ hour. Who took longer time and how much longer.

7. 7 + {1/3 + 2/9 × (7/4 - 5/12) }

8. 71/3 - 21/4 (2 1/5 × 3/4)

<u>Fraction as an operator</u>:

1. Find the value of:

(a) $\frac{1}{4}$ of Rs 25 (b) $\frac{1}{3}$ $of\ 6\ kg$ $(c)\frac{2}{3}$ of $3\frac{3}{5}$

2. Multiply:

(a) $\frac{2}{3} \times \frac{5}{7}$ (b) $\frac{3}{4} \times 2\frac{2}{3}$ (c) $\frac{3}{5} \times 2\frac{2}{9}$ (d) 3 X $4\frac{5}{6}$ (e) (1/3) of (1/6)

3. (3/4) of 16/27 + 23/14 + 12/18

4. A water tank can hold $58\frac{3}{4}$ liters of water. How much water would be needed to fill $\frac{2}{5}$ tank?

5. Find the area of a rectangle whose length is $18\frac{2}{5}$ m and breadth is $11\frac{2}{23}$m.

6. Find the product of : 2/5 X 3/5 X 2/5 X 10/15.

7. (-1/2) + (-1/2) + (-1/4) =

8. (1/2) + (3/2) + (1/6) =

9. (4/3) + (9/8) + (2/1) =

10. (3/2) - (-1/8) + (5/2) =

11. (5/8) X (16/18) =

Division of a fraction by a fraction

1. Divide : (a) $\frac{3}{4}$ by $\frac{1}{2}$ (b) $1\frac{5}{7}$ by $1\frac{3}{4}$ (c) $4 \div \frac{8}{3}$
2. Simplify : $(2\frac{1}{2} \div 1\frac{7}{8}) \times \frac{7}{12}$
3. 4/7 ÷ 5/7 × 9/11
4. 6 1/3 ÷ 3/5 of 19/9+6/3
5. The cost of $3\frac{3}{4}$ kg apples is Rs 84. How much will $4\frac{1}{2}$ kg apples cost?
6. (10/7) ÷ (5/7) =
7. (4/11) ÷ (3/5) =
8. (2/6) ÷ (-10/9) =
9. (- 4/16) ÷ (-8/12) =
10. Solve the following and reduce to the simplest form:

A) $(2\frac{2}{7} \div 4\frac{1}{7}) + 1\frac{3}{7}$ B) $(3\frac{3}{5} \div 2\frac{1}{5}) + 3\frac{4}{5}$

C) $(4\frac{1}{11} \div 4\frac{1}{11}) + 3\frac{2}{11}$ D) $(1\frac{2}{7} \div 1\frac{3}{7}) + 1\frac{5}{7}$

Word Problems on Fractions:

1. 4/7 of a number is 84. Find the number.
2. One half of the students in a school are girls, 3/5 of these girls are studying in lower classes. What fraction of girls are studying in lower classes?
3. Mansi reads three-fifth of 75 pages of his lesson. How many more pages he need to complete the lesson?
4. A herd of cows gives 4 litres of milk each day. But each cow gives one-third of total milk each day. They give 24 litres milk in six days. How many cows are there in the herd?
5. Six-sevenths of a number is 36. Find the number.
6. 3/5 of a class of 45 are boys. Find the number of girls in the class.
7. The product of two numbers is $18\frac{5}{6}$. If one of the numbers is $3\frac{2}{3}$, find the other.
8. The product of two numbers is $18\frac{5}{6}$. If one of the numbers is $3\frac{2}{3}$, find the other.
9. One side of square is 2/a, Find the perimeter of square.