

**Division of fractions**

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Division of a fraction by a whole number

A fraction being divided by a number is equivalent to the fraction being multiplied by the reciprocal of the number.

A reciprocal of the number is a number which we multiplied by the original number gives1. For e.g. the reciprocal of 2 is ½ since 2\*1/2 =1. Similarly, the reciprocal of 7/2 is 2/7.

In short, a reciprocal is obtained by swapping the numerator and denominator.

While dividing mixed fractions by whole numbers, convert the mixed fractions into improper fractions

Division of a whole number by a fraction

To divide a whole number by any fraction, multiply that whole number by the reciprocal of that fraction.

While dividing a whole number by a mixed fraction, first convert the mixed fraction into improper fraction and then solve it.

Division of a fraction by a fraction

In order to the divide, we can multiply the reciprocal of the divisor to the dividend.

The answer obtained is also the answer to the division problem.

Problem:  12 ÷  (3/4)

To divide a whole number by any fraction, multiply that whole number by the reciprocal of that fraction.

The reciprocal of ¾ is 4/3. So,we get:

= 12\* 4/3

= 48/3

= 16

(ii) 5 ÷ 3(4/7)

Firstly convert the mixed fraction into improper fraction.(3\*7+4)/7 =25/7

To divide a whole number by any fraction, multiply that whole number by the reciprocal of that fraction.

= 5/25/7

= 5\*7/25

= 35/25

= 7/5

Problem: Find  7/3 ÷  2  ,    4/9 ÷ 2/3

We will multiply the fraction with the reciprocal of the whole number. The reciprocal of 2 is ½.

= 7/3\*1/2

=7/6

4/9 ÷ 2/3

In order to the divide, we can multiply the reciprocal of the divisor to the dividend.

4/9 is the dividend and 2/3 is the divisor.

The reciprocal of 2/3 is 3/2.

= 4/9\*3/2

= 12/18

= 2/3 (Dividing by the common factor 6)