

# **Multiplication and Division of Fractions**

We can simplify the fraction by dividing the numerators and denominators both by the same number. If there is mixed fraction, first convert that into improper fraction. (**Remember:** We don't have to make same denominator for multiplication and division of fractions)

## **Exercise 25**

1) Write the following fraction in simplest form.

a)  $\frac{21}{28} = \underline{\hspace{2cm}}$     b)  $\frac{16}{32} = \underline{\hspace{2cm}}$     c)  $\frac{21}{31} = \underline{\hspace{2cm}}$     d)  $\frac{50}{60} = \underline{\hspace{2cm}}$

Multiply the following fractions

2)  $\frac{8}{27} \times \frac{9}{12} = \underline{\hspace{2cm}}$

3)  $\frac{15}{32} \times \frac{8}{30} = \underline{\hspace{2cm}}$

4)  $2\frac{1}{6} \times \frac{9}{13} = \underline{\hspace{2cm}}$

5)  $\frac{5}{6} \times \frac{2}{15} \times \frac{9}{12} = \underline{\hspace{2cm}}$

6)  $\frac{1}{6} \times \frac{9}{15} \times \frac{10}{13} = \underline{\hspace{2cm}}$

7) Evaluate the following quantities.

a)  $\frac{2}{5}$  of 500 kg  

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b)  $\frac{1}{3}$  of 333  

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c)  $\frac{7}{10}$  of 400 m  

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d)  $\frac{50}{60}$  of 300 ml  

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e)  $\frac{75}{100}$  of 28 mile  

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f)  $\frac{2}{7}$  of £ 140  

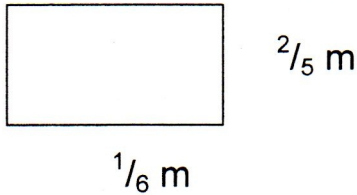
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## **Division of fractions**

### **Worked Out Example**

Steps Involved	Example	Remark
1) Check whether there is mixed fraction or not.	$4\frac{1}{6} \div \frac{5}{12}$	Yes $4\frac{1}{6}$ is mixed fraction. $(4 \times 6 + 1)/6$ and other terms remains same. Keep Change Flip $\frac{5}{6} \times \frac{12}{5} = 1$ We can divide numerator (25) and denominator (5) by 5
2) If any, convert mixed fraction into improper fraction.	$\frac{25}{6} \div \frac{5}{12}$	
3) Keep the first fraction same, Change the $\div$ sign to $\times$ sign, and Flip the next fraction after changing the sign.	$\frac{25}{6} \times \frac{12}{5}$	
4) Now simplify and write the answer into the simplest form.	$\frac{5}{1} \times \frac{2}{1} = \frac{10}{1}$	
5) Times the numerator and times the denominators.	$5 \times 2 = 10$ $1 \times 1 = 1$	

8) Find the Area and Perimeter of the given rectangle.



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Divide the following fractions.	Simplify the following fractions.
9) $\frac{15}{27} \div \frac{5}{12} =$ _____	14) $\frac{2}{8} \times \frac{1}{3} \times \frac{5}{24} =$ _____
10) $\frac{21}{45} \div \frac{7}{3} =$ _____	15) $\frac{5}{8} \div \frac{3}{4} \times \frac{1}{2} =$ _____
11) $2\frac{1}{6} \div 6\frac{1}{2} =$ _____	16) $(\frac{3}{4} \div \frac{1}{2}) \times 2\frac{1}{6} =$ _____
12) $\frac{5}{6} \div \frac{5}{21} \div 2\frac{1}{3} =$ _____	17) $\frac{5}{9} \times \frac{6}{15} \div \frac{10}{18} =$ _____
13) $\frac{210}{400} \div \frac{700}{800} =$ _____	18) $2\frac{1}{6} \div (1\frac{1}{2} \div 3\frac{1}{2}) =$ _____

19) Andrew has 30 chocolate, Peter took half of them, John took 6, work out the chocolate left with him. Express in the fraction.

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20) John gave  $\frac{2}{5}$  of the money to his friend and to  $\frac{1}{3}$  his cousin. Calculate what fraction of money left with him.

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