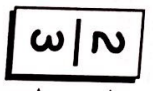


Fractions

A fraction consists of 2 parts :-



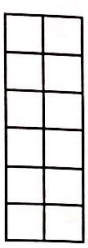
The "denominator" is the name (or type) of fraction you are dealing with (thirds here). The "numerator" tells you the number or "how many" of the thirds (in this case 2).

Simplifying Fractions

Exercise 1

1. For each of the following, say what fraction has been shaded :-

(a) (b) (c) (d) (e) (f) (g) (h) (i) (j) (k)



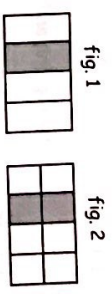
- Use a ruler to draw this rectangle measuring 6 boxes by 2 boxes. Shade in any $\frac{1}{4}$ of it.
- Draw the same box again. This time shade or colour in $\frac{1}{6}$ of the shape.
- Draw the same box again. This time shade or colour in $\frac{3}{4}$ of the shape.
- Draw the same box again. This time shade or colour in $\frac{2}{3}$ of the shape.
- Draw the same box again. This time shade or colour in $\frac{7}{12}$ of the shape.

Fractions & Percentages



3. Two fractions might look different because they have different numerators and different denominators but they might still represent the same number :-

Look at the two diagrams representing fractions.



- What fraction is shaded in figure 1 ?
Can you see that the fraction shaded in figure 2 is $\frac{2}{4}$?
- What do the two diagrams tell you about the fractions $\frac{2}{4}$ and $\frac{1}{2}$?

4. Copy the following and write down underneath each figure what fraction is shaded.

$\frac{1}{2}$ $\frac{1}{2}$ $\frac{5}{9}$ $\frac{5}{9}$ $\frac{5}{9}$ $\frac{5}{9}$ $\frac{5}{9}$

- From the pictures you can see another fraction equal to $\frac{1}{2}$. ($\frac{1}{2} = \frac{2}{4}$)
- The second and last diagrams show that $\frac{1}{3}$ is the same as $\frac{2}{6}$.
- The third and the fifth diagram shows that $\frac{2}{15}$ is the same as $\frac{4}{30}$.

It is possible to find a fraction equivalent to $\frac{3}{4}$ by simply "multiplying the numerator and the denominator by any number" :-

$$\Rightarrow \frac{3}{4} \text{ becomes } \frac{3 \times 5}{4 \times 5} = \frac{15}{20}$$

numerator $\times 5$
denominator $\times 5$

- Multiply the top and the bottom of $\frac{3}{4}$ by 2 to create a new fraction. What is it ?
 - Multiply the top and the bottom of $\frac{3}{4}$ by 3 to create a new fraction. What is it ?
 - Find at least 4 more fractions equivalent to $\frac{3}{4}$.

6. Multiply the top and bottoms of each fraction by any simple number to create a new fraction equivalent to the one given :-

- (a) $\frac{1}{3}$ (b) $\frac{2}{5}$ (c) $\frac{2}{7}$ (d) $\frac{7}{8}$ (e) $\frac{9}{10}$ (f) $\frac{17}{20}$

We can **SIMPLIFY** fractions (like $\frac{9}{12}$) by "dividing" top and bottom by a number.

$$\Rightarrow \frac{9}{12} \text{ becomes } \frac{9 \div 3}{12 \div 3} = \frac{3}{4}$$

(this is the fraction in its simplest form)

- Divide the top line and bottom line of each fraction by 3, to simplify each one :-
(i) $\frac{3}{6}$ (ii) $\frac{6}{15}$ (iii) $\frac{24}{24}$ (iv) $\frac{15}{27}$ (v) $\frac{9}{39}$ (vi) $\frac{18}{33}$

cont'd.....