(b) By dividing the top line and bottom line of each fraction by 4, simplify each one:-

(i) $\frac{8}{12}$  (ii) $\frac{12}{16}$  (iii) $\frac{4}{20}$  (iv) $\frac{20}{24}$  (v) $\frac{28}{32}$  (vi) $\frac{16}{28}$

(c) By dividing the top line and bottom line of each fraction by 5, simplify each one:-

(i) $\frac{5}{15}$  (ii) $\frac{10}{25}$  (iii) $\frac{45}{80}$  (iv) $\frac{35}{50}$  (v) $\frac{45}{55}$  (vi) $\frac{100}{105}$

8. For each of the following fractions, divide the numerator and the denominator by a number to simplify the fraction:-

(a) $\frac{9\div3}{12\div3}$  (b) $\frac{5}{25}$  (c) $\frac{7}{21}$  (d) $\frac{8}{24}$  (e) $\frac{12}{30}$

(f) $\frac{28}{35}$  (g) $\frac{9}{15}$  (h) $\frac{7}{35}$  (i) $\frac{12}{36}$  (j) $\frac{70}{100}$

(k) $\frac{8}{12}$  (l) $\frac{20}{32}$  (m) $\frac{50}{75}$  (n) $\frac{10}{35}$  (o) $\frac{25}{105}$

(p) $\frac{12}{16}$  (q) $\frac{35}{56}$  (r) $\frac{27}{36}$  (s) $\frac{33}{55}$  (t) $\frac{80}{100}$

# Fractions of a quantity

To find $\frac{1}{4}$ of 12, you simply divide 12 by 4
=> $\frac{1}{4}$ of 12 = $(12\div4)$ = 3

To find $\frac{1}{5}$ of 20, you simply divide 20 by 5
=> $\frac{1}{5}$ of 20 = $(20\div5)$ = 4

To find $\frac{1}{10}$ of 90, you simply divide 90 by 10
=> $\frac{1}{10}$ of 90 = $(90\div10)$ = 9

## Exercise 2

1. Find :-

(a) $\frac{1}{2}$ of 22  (b) $\frac{1}{4}$ of 16  (c) $\frac{1}{4}$ of 18

(d) $\frac{1}{5}$ of 50  (e) $\frac{1}{10}$ of 90  (f) $\frac{1}{6}$ of 120

(g) $\frac{1}{8}$ of 160  (h) $\frac{1}{100}$ of 700  (i) $\frac{1}{20}$ of 60

(j) $\frac{1}{7}$ of 49  (k) $\frac{1}{4}$ of 52  (l) $\frac{1}{25}$ of 200

2. Find :-

(a) $\frac{1}{3}$ of 156  (b) $\frac{1}{4}$ of 368  (c) $\frac{1}{5}$ of 315

(d) $\frac{1}{6}$ of 1920  (e) $\frac{1}{7}$ of 1680  (f) $\frac{1}{20}$ of 820

(g) $\frac{1}{15}$ of 4500  (h) $\frac{1}{11}$ of 1221  (i) $\frac{1}{30}$ of 690

To find $\frac{3}{4}$ of a number (like 24), you do it using 2 steps.

Step 1 :- Find $\frac{1}{4}$ of 24 first (÷ 4)  => $\frac{1}{4}$ of 24 = 24 ÷ 4 = 6

Step 2 :- Now find $\frac{3}{4}$ of 24 by (× 3)  => $\frac{3}{4}$ of 24 = 6 × 3 = 18

Rule :-
To multiply by a fraction like $\frac{5}{6}$
=> "divide by the denominator" (6)
=> then "multiply by the numerator" (5)

Set the working down as follows :-

$\frac{3}{4}$ of 24 => $(24\div4)$ => 6 × 3 = 18

$\frac{2}{3}$ of 21 => $(21\div3)$ => 7 × 2 = 14

$\frac{5}{8}$ of 16 => $(16\div8)$ => 2 × 5 = 10

3. Without using a calculator do the following :-

(a) $\frac{2}{3}$ of 18 = $(18\div3)$ => 6 × 2 = ...

(b) $\frac{3}{5}$ of 30 = $(30\div ...)$ => ... × 3 = ...

(c) $\frac{2}{3}$ of 15  (d) $\frac{3}{4}$ of 32  (e) $\frac{2}{5}$ of 25

(f) $\frac{5}{8}$ of 24  (g) $\frac{7}{10}$ of 60  (h) $\frac{5}{9}$ of 27

(i) $\frac{4}{7}$ of 35  (j) $\frac{3}{8}$ of 32  (k) $\frac{9}{10}$ of 60

(l) $\frac{7}{100}$ of 300  (m) $\frac{7}{10}$ of 30  (n) $\frac{7}{8}$ of 160

4. Do the following :-

(a) $\frac{4}{5}$ of 120 = $(120\div5)$ => 24 × 4 = ...

(b) $\frac{3}{8}$ of 400 = $(400\div?)$ => ? × 3 = ??

(c) $\frac{3}{4}$ of 120  (d) $\frac{2}{3}$ of 360  (e) $\frac{9}{10}$ of 1300

(f) $\frac{2}{5}$ of 85  (g) $\frac{7}{9}$ of 360  (h) $\frac{3}{8}$ of 256

(i) $\frac{6}{7}$ of 630  (j) $\frac{5}{6}$ of 174  (k) $\frac{7}{8}$ of 640

5.

(a) There are 440 adults in St David's congregation. $\frac{5}{8}$ of them are women.
(i) How many women are there?  (ii) How many men?

(b) There are 365 days in a year. It rained on $\frac{4}{5}$ of them.
(i) On how many days did it rain?  (ii) How many dry days were there?

(c) A turtle laid 132 eggs. $\frac{5}{6}$ of them were eaten by birds.
(i) How many eggs were eaten?  (ii) How many survived?