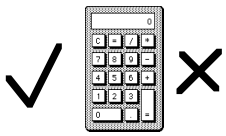
Chapter 31



Calculators may be used in this chapter but the FRACTION BUTTON should **NOT** be used.

Fractions

Exercise 1

1. Change each of these top heavy fractions to mixed numbers :-

(a) $\frac{15}{2}$ (b) $\frac{16}{3}$ (c) $\frac{42}{5}$ (d) $\frac{91}{20}$

(e) $\frac{25}{4}$ (f) $\frac{63}{8}$ (g) $\frac{122}{11}$ (h) $\frac{629}{25}$

2. Change each of the following to a mixed number and simplify where possible :-

(a) $\frac{30}{4}$ (b) $\frac{25}{10}$ (c) $\frac{131}{5}$ (d) $\frac{100}{15}$

(e) $\frac{305}{25}$ (f) $\frac{78}{8}$ (g) $\frac{1005}{25}$ (h) $\frac{100005}{100}$

3. Change each of the following mixed numbers to a top heavy fraction :-

(a) $3\frac{1}{2}$ (b) $4\frac{1}{3}$ (c) $7\frac{3}{5}$ (d) $10\frac{5}{6}$

(e) $7\frac{8}{9}$ (f) $5\frac{11}{12}$ (g) $10\frac{1}{50}$ (h) $15\frac{8}{15}$

4. How many $\frac{1}{4}$ litre glasses of juice can I get from :-

(a) 2 litres (b) 10 litres (c) $\frac{1}{2}$ litre (d) $3\frac{3}{4}$ litres ?

Exercise 2

1. Copy each of the following and simplify (where possible) :-

(a) $\frac{1}{5}+\frac{3}{5}$ (b) $\frac{2}{7}+\frac{1}{7}$ (c) $\frac{5}{8}-\frac{2}{8}$ (d) $\frac{8}{11}-\frac{5}{11}$

(e) $\frac{4}{5}-\frac{3}{5}$ (f) $\frac{7}{8}-\frac{5}{8}$ (g) $\frac{1}{8}+\frac{3}{8}$ (h) $\frac{4}{10}+\frac{6}{10}$

2. Copy each and simplify :-

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

(e) $2\frac{3}{4}-2\frac{1}{4}$ (f) $7\frac{5}{8}-4\frac{3}{8}$ (g) $10\frac{7}{10}-5\frac{3}{10}$ (h) $2\frac{13}{15}-1\frac{8}{15}$

3. Tom walked for $\frac{3}{8}$ of a kilometre, rested, and then walked another $\frac{1}{8}$ kilometres.
How far had Tom walked in total ?

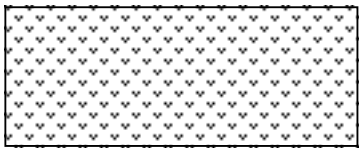
4. Jerry mixed $2\frac{3}{4}$ kg's of currants and $1\frac{1}{4}$ kg's of raisins into a bowl.
What is the total weight of currants and raisins ?

5. 

Bill jogged $5\frac{3}{4}$ km of an eight kilometre run.
How far has Bill still to jog ?

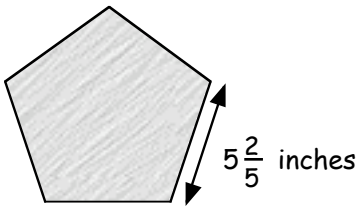
6. At a birthday party, Ann drank $1\frac{1}{4}$ litres of punch,
Alec drank $2\frac{1}{4}$ litres and Jim drank $\frac{3}{4}$ of a litre.

(a) How much punch did they drink altogether.
(b) How much punch was left from a 6 litre bowl ?

7. 

A rectangular garden measures $7\frac{3}{5}$ metres by $4\frac{4}{5}$ metres.
Find the perimeter of the garden.

8. An regular pentagonal garden slab has side $5\frac{2}{5}$ inches.
Find the perimeter of the slab.



Exercise 3

1. **Copy** and complete each of the following calculations and simplify where possible :-
(Remember – denominators must be the same to add or subtract)

(a) $\frac{1}{2} + \frac{1}{8}$ (b) $\frac{2}{3} + \frac{1}{6}$ (c) $\frac{3}{4} - \frac{5}{12}$ (d) $\frac{5}{16} - \frac{1}{4}$

(e) $\frac{7}{10} + \frac{3}{5}$ (f) $\frac{5}{6} - \frac{7}{12}$ (g) $\frac{9}{16} + \frac{3}{4}$ (h) $\frac{9}{51} - \frac{3}{17}$

(i) $\frac{2}{3} + \frac{1}{2} + \frac{1}{4}$ (j) $\frac{5}{12} + \frac{1}{4} - \frac{1}{2}$ (k) $\frac{1}{2} + \frac{1}{3} + \frac{1}{4} + \frac{1}{5}$

2. **Copy** and simplify :-

(a) $3\frac{1}{2} + 1\frac{1}{3}$ (b) $1\frac{1}{3} + 3\frac{1}{4}$ (c) $4\frac{1}{2} + 1\frac{2}{5}$ (d) $4\frac{1}{2} - 1\frac{2}{5}$

(e) $6\frac{7}{8} - 4\frac{3}{4}$ (f) $1\frac{3}{5} - \frac{7}{15}$ (g) $4\frac{9}{10} - 3\frac{3}{4}$ (h) $4\frac{9}{10} + 3\frac{3}{4}$

3. **Copy** and simplify :-

(a) $5 - 2\frac{2}{3}$ (b) $8 - 4\frac{4}{7}$ (c) $4\frac{1}{2} - 2\frac{3}{4}$ (d) $7\frac{3}{8} - 1\frac{1}{2}$

(e) $3\frac{1}{6} - 1\frac{4}{5}$ (f) $11\frac{1}{3} - 9\frac{1}{2}$ (g) $8\frac{2}{5} - 1\frac{2}{3}$ (h) $1\frac{1}{4} - \frac{2}{5}$

Exercise 4

1. Copy and complete each calculation (simplifying where possible) :-

(a) $\frac{2}{3} \times \frac{5}{7}$ (b) $\frac{1}{2} \times \frac{3}{5}$ (c) $\frac{3}{4} \times \frac{7}{8}$ (d) $\frac{5}{8} \times \frac{2}{3}$

(e) $\frac{7}{8} \times \frac{1}{14}$ (f) $\frac{2}{3} \times \frac{15}{16}$ (g) $\frac{7}{10} \times \frac{5}{14}$ (h) $\frac{5}{4} \times \frac{8}{15}$

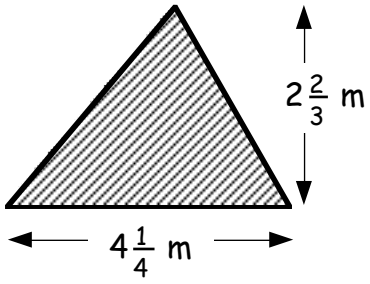
2. Simplify :-

(a) $2\frac{1}{4} \times 3\frac{1}{2}$ (b) $4\frac{2}{3} \times 3\frac{1}{2}$ (c) $2\frac{3}{4} \times 3\frac{1}{2}$ (d) $1\frac{2}{5} \times 2\frac{3}{5}$

(e) $5\frac{4}{5} \times 1\frac{2}{3}$ (f) $1\frac{1}{7} \times 2\frac{4}{5}$ (g) $1\frac{4}{9} \times 4\frac{1}{2}$ (h) $5\frac{3}{5} \times \frac{6}{7}$

3. A large rectangular metal sheet has dimensions $2\frac{2}{5}$ metres by $3\frac{3}{4}$ metres.
Calculate the area of the metal sheet.

4. A triangle has dimensions as shown.
Calculate the area of the triangle.



Exercise 5

1. Copy and complete each calculation (simplifying where possible) :-

(a) $\frac{3}{5} \div \frac{3}{4}$ (b) $\frac{4}{5} \div \frac{2}{15}$ (c) $\frac{1}{8} \div \frac{1}{4}$ (d) $\frac{4}{9} \div \frac{4}{15}$

(e) $\frac{7}{11} \div \frac{7}{22}$ (f) $\frac{8}{15} \div \frac{2}{3}$ (g) $\frac{11}{36} \div \frac{22}{24}$ (h) $\frac{10}{33} \div \frac{25}{36}$

2. Copy and complete :-

(a) $6\frac{2}{3} \div 2\frac{1}{2}$ (b) $4\frac{1}{5} \div 3\frac{1}{2}$ (c) $1\frac{5}{7} \div 1\frac{1}{5}$ (d) $1\frac{2}{3} \div 2\frac{2}{9}$

(e) $4\frac{4}{5} \div 1\frac{1}{15}$ (f) $1\frac{1}{2} \div 1\frac{3}{7}$ (g) $5\frac{2}{5} \div 6\frac{2}{5}$ (h) $2\frac{5}{8} \div 1\frac{2}{5}$

3. A sack of potatoes weighs $12\frac{5}{8}$ kg.
The sack has to be emptied into bags each weighing $2\frac{1}{4}$ kg.
(a) How many full bags can be filled from the sack ?
(b) What weight of potatoes is left ?

4. A twenty metre length of rope is cut into $1\frac{5}{8}$ metre pieces.
How much of the rope would be left over ?

Revision Exercise

1. Change to a mixed number :- (a) $\frac{22}{7}$ (b) $\frac{83}{3}$

2. Change to a top heavy fraction :- (a) $4\frac{1}{4}$ (b) $10\frac{2}{9}$

3. Copy and complete :-

   (a) $\frac{2}{5} + \frac{1}{5}$ (b) $\frac{4}{5} + \frac{2}{3}$ (c) $\frac{8}{9} - \frac{2}{3}$ (d) $\frac{4}{5} - \frac{3}{8}$

   (e) $2\frac{4}{5} + 3\frac{3}{4}$ (f) $1\frac{1}{7} + \frac{3}{5}$ (g) $5\frac{2}{3} - 3\frac{3}{5}$ (h) $5\frac{1}{3} - 2\frac{3}{4}$

4. Copy and complete :-

   (a) $\frac{4}{9} \times \frac{7}{8}$ (b) $\frac{2}{3} \times \frac{9}{16}$ (c) $2\frac{1}{3} \times 1\frac{1}{5}$ (d) $5\frac{5}{6} \times 1\frac{3}{7}$

   (e) $\frac{5}{6} \div \frac{2}{3}$ (f) $\frac{7}{9} \div \frac{2}{3}$ (g) $\frac{15}{7} \div \frac{5}{14}$ (h) $3\frac{5}{9} \div 2\frac{2}{3}$

5. A rectangle has length $4\frac{2}{3}$ metres and breadth $2\frac{1}{4}$ metres.
   Calculate the area of the rectangle.

6. A rectangle has an area of $8\frac{3}{4}$ metres.
   If the rectangle has length $5\frac{5}{6}$ metres, find the breadth.