



SpeedLabs

MATHS

CBSE 7th

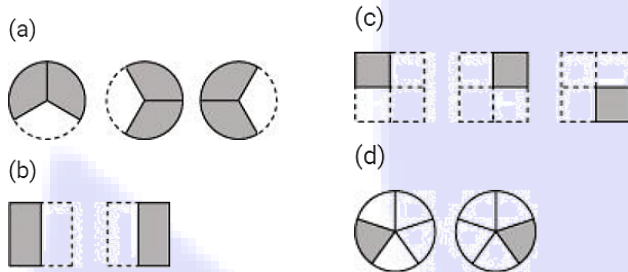
TEEVRA EDUTECH PVT. LTD.

Fractions and Decimals

Exercise-2.2

Q.1 Which of the drawings (a) to (d) show:

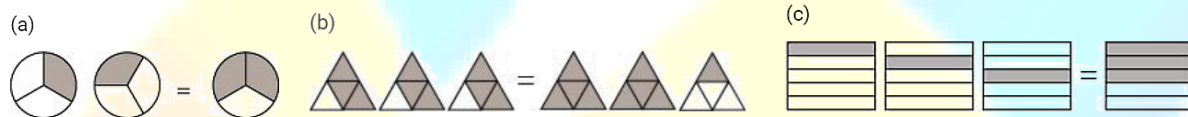
(i) $2 \times \frac{1}{5}$ (ii) $2 \times \frac{1}{2}$ (iii) $3 \times \frac{2}{3}$ (iv) $3 \times \frac{1}{4}$



Sol: (i) (d) Since $2 \times \frac{1}{5} = \frac{1}{5} + \frac{1}{5}$
 (ii) (b) Since $2 \times \frac{1}{2} = \frac{1}{2} + \frac{1}{2}$
 (iii) (a) Since $3 \times \frac{2}{3} = \frac{2}{3} + \frac{2}{3} + \frac{2}{3}$
 (iv) (c) Since $3 \times \frac{1}{4} = \frac{1}{4} + \frac{1}{4} + \frac{1}{4}$

Q.2 Some pictures (a) to (c) are given below. Tell which of them show:

(i) $3 \times \frac{1}{5} = \frac{3}{5}$ (ii) $2 \times \frac{1}{3} = \frac{2}{3}$ (iii) $3 \times \frac{3}{4} = 2\frac{1}{4}$



Sol: (i) - (c) Since $3 \times \frac{1}{5} = \frac{1}{5} + \frac{1}{5} + \frac{1}{5}$
 (ii) - (a) Since $2 \times \frac{1}{3} = \frac{1}{3} + \frac{1}{3}$
 (iii) - (b) Since $3 \times \frac{3}{4} = \frac{3}{4} + \frac{3}{4} + \frac{3}{4}$

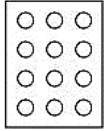
Q.3 Multiply and reduce to lowest form and convert into a mixed fraction:

(i) $7 \times \frac{3}{5}$ (ii) $4 \times \frac{1}{3}$ (iii) $2 \times \frac{6}{7}$ (iv) $5 \times \frac{2}{9}$ (v) $\frac{2}{3} \times 4$

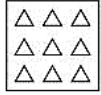
(vi) $\frac{5}{2} \times 6$ (vii) $11 \times \frac{4}{7}$ (viii) $20 \times \frac{4}{5}$ (ix) $13 \times \frac{1}{3}$ (x) $15 \times \frac{3}{5}$

Sol: (i) $7 \times \frac{3}{5} = \frac{21}{5} = 4\frac{1}{5}$ (ii) $4 \times \frac{1}{3} = \frac{4}{3} = 1\frac{1}{3}$ (iii) $2 \times \frac{6}{7} = \frac{12}{7} = 1\frac{5}{7}$
 (iv) $5 \times \frac{2}{9} = \frac{10}{9} = 1\frac{1}{9}$ (v) $\frac{2}{3} \times 4 = \frac{8}{3} = 2\frac{2}{3}$ (vi) $\frac{5}{2} \times 6 = 15$
 (vii) $11 \times \frac{4}{7} = \frac{44}{7} = 6\frac{2}{7}$ (viii) $20 \times \frac{4}{5} = 16$ (ix) $13 \times \frac{1}{3} = \frac{13}{3} = 4\frac{1}{3}$
 (x) $15 \times \frac{3}{5} = 9$

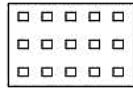
Q.4 Shade: (i) $\frac{1}{2}$ of the circles in box (a) (ii) $\frac{2}{3}$ of the triangles in box (b) (iii) $\frac{3}{5}$ of the squares in box (c)



(a)

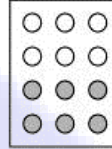


(b)

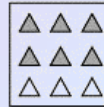


(c)

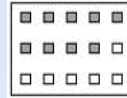
Sol: (i) It can be observed that there are 12 circles in the given box. We have to shade $\frac{1}{2}$ of the circles in it
 $12 \times \frac{1}{2} = 6$. As, therefore, we will shade any 6 circles of it.



(ii) It can be observed that there are 9 triangles in the given box. We have to shade $\frac{2}{3}$ of the triangles in it
 $9 \times \frac{2}{3} = 6$. As, therefore, we will shade any 6 triangles of it.



(iii) It can be observed that there are 15 squares in the given box. We have to shade $\frac{3}{5}$ of the squares in it
 $15 \times \frac{3}{5} = 9$. As, therefore, we will shade any 9 squares of it



Q.5 Find:

(a) $\frac{1}{2}$ of (i) 24 (ii) 46 (b) $\frac{2}{3}$ of (i) 18 (ii) 27

(c) $\frac{3}{4}$ of (i) 16 (ii) 36 (d) $\frac{4}{5}$ of (i) 20 (ii) 35

Sol: (a) (i) $\frac{1}{2} \times 24 = 12$ (ii) $\frac{1}{2} \times 46 = 23$
 (b) (i) $18 \times \frac{2}{3} = 12$ (ii) $27 \times \frac{2}{3} = 18$
 (c) (i) $16 \times \frac{3}{4} = 12$ (ii) $36 \times \frac{3}{4} = 27$
 (d) (i) $20 \times \frac{4}{5} = 16$ (ii) $35 \times \frac{4}{5} = 28$

Q.6 Multiply and express as a mixed fraction:

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

Sol: (a) $3 \times 5\frac{1}{5} = 3 \times \frac{26}{5} = \frac{78}{5} = 15\frac{3}{5}$
 (b) $5 \times 6\frac{3}{4} = 5 \times \frac{27}{4} = \frac{135}{4} = 33\frac{3}{4}$
 (c) $7 \times 2\frac{1}{4} = 7 \times \frac{9}{4} = \frac{63}{4} = 15\frac{3}{4}$
 (d) $4 \times 6\frac{1}{3} = 4 \times \frac{19}{3} = \frac{76}{3} = 25\frac{1}{3}$
 (e) $3\frac{1}{4} \times 6 = \frac{13}{4} \times 6 = \frac{78}{4} = 19\frac{1}{2}$
 (f) $3\frac{2}{5} \times 8 = \frac{17}{5} \times 8 = \frac{136}{5} = 27\frac{1}{5}$

Q.7 Find

(a) $\frac{1}{2}$ of (i) $2\frac{3}{4}$ (ii) $2\frac{2}{9}$

(b) $\frac{5}{8}$ of (i) $3\frac{5}{6}$ (ii) $9\frac{2}{3}$

Sol: (a) (i) $\frac{1}{2} \times 2\frac{3}{4} = \frac{1}{2} \times \frac{11}{4} = \frac{11}{8} = 1\frac{3}{8}$

(ii) $\frac{1}{2} \times 2\frac{2}{9} = \frac{1}{2} \times \frac{38}{9} = \frac{19}{9} = 2\frac{1}{9}$

(b) (i) $\frac{5}{8} \times 3\frac{5}{6} = \frac{5}{8} \times \frac{23}{6} = \frac{115}{48} = 2\frac{19}{48}$

(ii) $\frac{5}{8} \times 9\frac{2}{3} = \frac{5}{8} \times \frac{29}{3} = \frac{145}{24} = 6\frac{1}{24}$

Q.8 Vidya and Pratap went for a picnic. Their mother gave them a water bottle that contained 5 litres of water. Vidya consumed $\frac{2}{5}$ of the water. Pratap consumed the remaining water.

(i) How much water did Vidya drink?

(ii) What fraction of the total quantity of water did Pratap drink?

Sol: (i) Water consumed by Vidya = $\frac{2}{5}$ of 5 litres

$$= \frac{2}{5} \times 5 = 2 \text{ litre}$$

(ii) Water consumed by Pratap = $1 - \frac{2}{5} = \frac{3}{5}$ of the total water.