

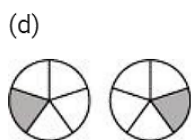
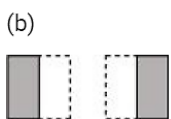
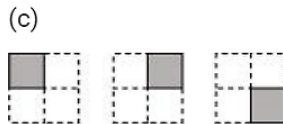
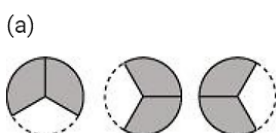
Board – CBSE

Class – 7th

Topic – Fractions and Decimals 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  $3 \times \frac{2}{3} = \frac{2}{3} + \frac{2}{3} + \frac{2}{3}$

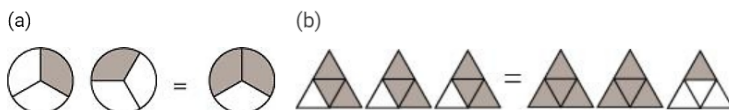
(iv) (c) Since  $3 \times \frac{1}{4} = \frac{1}{4} + \frac{1}{4} + \frac{1}{4}$

**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)  $2 \times \frac{6}{7} = \frac{12}{7} = 1\frac{5}{7}$

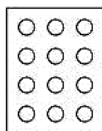
(iv)  $5 \times \frac{2}{9} = \frac{10}{9} = 1\frac{1}{9}$       (v)  $\frac{2}{3} \times 4 = \frac{8}{3} = 2\frac{2}{3}$       (vi)  $\frac{5}{2} \times 6 = 15$

(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)  $15 \times \frac{3}{5} = 9$

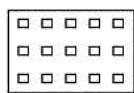
**Q.4** Shade: (i)  $\frac{1}{2}$  of the circles in the box (ii)  $\frac{2}{3}$  of the triangles in the box (iii)  $\frac{3}{5}$  of the squares in the box



(a)

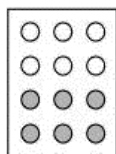


(b)

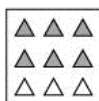


(c)

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

$$(b) \quad (i) \frac{5}{8} \times 3\frac{5}{6} = \frac{5}{8} \times \frac{23}{6} = \frac{115}{48} = 2\frac{19}{48}$$
$$(ii) \frac{5}{8} \times 9\frac{2}{3} = \frac{5}{8} \times \frac{29}{3} = \frac{145}{24} = 6\frac{1}{24}$$

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

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

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