

Ch - 02. Fractions and Decimals  
Mathematics class - VII

Ex - 2.2

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

- (i) - (d)      (iv) - (c)  
 (ii) - (b)  
 (iii) - (a)

Reason for (i):

(i)  $2 \times \frac{1}{5} =$



$\frac{1}{5} + \frac{1}{5}$  part is shaded.

Now,  $\frac{1}{5} + \frac{1}{5} = \frac{1+1}{5} = \frac{2}{5} = \boxed{2 \times \frac{1}{5}} = (d).$

Q: 2. Some pictures (a) to (c) are given,  
 say which of them shows :-

(i)  $3 \times \frac{1}{5} = 3 \left( \frac{1}{5} \right) = \frac{1}{5} + \frac{1}{5} + \frac{1}{5} = \frac{1+1+1}{5}$   
 $= \frac{3}{5} = \underline{\underline{(c)}}$

(ii)  $2 \times \frac{1}{3} = \frac{1}{3} + \frac{1}{3} = \frac{1+1}{3} = \frac{2}{3} = \underline{\underline{(a)}}$

(iii)  $3 \times \frac{3}{4} = \frac{3}{4} + \frac{3}{4} + \frac{3}{4} = \frac{3+3+3}{4} = \frac{9}{4} = 2\frac{1}{4}$   
 $= \underline{\underline{(b)}}$

Q.3. Multiply and reduce to the lowest form.

Sol: (i)  $\frac{7 \times \frac{3}{5}}{5} = \frac{7 \times 3}{5} = \frac{21}{5} = \underline{4\frac{1}{5}}$

(ii)  $\frac{\frac{2}{3} \times 4}{3} = \frac{2 \times 4}{3} = \frac{8}{3} = \underline{2\frac{2}{3}}$

(iii)  $\frac{\frac{5}{2} \times 6}{2} = \frac{5 \times 6}{2} = \frac{30}{2} = \frac{\cancel{2} \times 15}{\cancel{2}} = \underline{15}$

(iv)  $\frac{20 \times \frac{4}{5}}{5} = \frac{20 \times 4}{5} = \frac{80}{5} = \frac{\cancel{5} \times 16}{\cancel{5}} = \underline{16}$

(v)  $\frac{15 \times \frac{3}{5}}{5} = \frac{15 \times 3}{5} = \frac{45}{5} = \frac{\cancel{5} \times 9}{\cancel{5}} = \underline{9}$

Q.4. Shade (i)  $\frac{1}{2}$  of the circles in box (a)

Sol: (i) (a)  $\frac{1}{2}$  of the circles in box (a).

$= \frac{1}{2} \times 12 = \underline{6 \text{ circles are shaded}}$

(ii) (b)  $\frac{2}{3}$  of the triangles in box (b)

$= \frac{2}{3} \times 9 = \underline{6 \text{ triangles are shaded}}$

(iii) (c)  $\frac{3}{5}$  of the squares in box (c)

$= \frac{3}{5} \times 15 = \underline{9 \text{ sq. are shaded}}$

Q.6. Multiply and express as a mixed fractions

Sol. (a)  $3 \times 5\frac{1}{5} = 3 \times \left(\frac{25+1}{5}\right) = 3 \times \frac{26}{5}$   
 $= \frac{3 \times 26}{5} = \frac{78}{5} = \underline{15\frac{3}{5}}$

(b)  $\frac{3\frac{2}{5} \times 8}{5} = \left(\frac{3 \times 5 + 2}{5}\right) \times 8 = \left(\frac{15+2}{5}\right) \times 8$   
 $= \frac{17}{5} \times 8 = \frac{136}{5} = \underline{27\frac{1}{5}}$

Q.7. Find (a)  $\frac{1}{2}$  of (i)  $2\frac{3}{4}$  (ii)  $4\frac{2}{9}$ .

Sol. (a)  $\frac{1}{2}$  of  $2\frac{3}{4} = \frac{1}{2} \times \left(\frac{2 \times 4 + 3}{4}\right)$   
 $= \frac{1}{2} \times \frac{11}{4} = \frac{11}{8} = \underline{1\frac{3}{8}}$

(ii)  $\frac{1}{2}$  of  $4\frac{2}{9} = \frac{1}{2} \times \left(\frac{4 \times 9 + 2}{9}\right)$   
 $= \frac{1}{2} \times \frac{38}{9} = \frac{38}{18} = \frac{19}{9}$   
 $= \underline{2\frac{1}{9}}$

Q.8. Sol. Vol. of water contained in the bottle = 5 litres.  
Water consumed by Vidya =  $\frac{2}{5}$  of 5 l  
 $= \underline{2 \text{ litres.}}$

Now, Water consumed by Pratap

$$= 1 - \frac{2}{5}$$

$$= \frac{5-2}{5} = \frac{3}{5} \text{ w (fraction.)}$$

Hence, Water drank by Pratap

$$= \frac{3}{5} \text{ of } 5$$

$$= \underline{3 \text{ litres}}$$