

Chapter-7

Equivalent Fractions

Q1. Find the equivalent fractions of the following by multiplying 2 to numerator and denominator:-

$$(i) \quad \frac{1}{2} \Rightarrow \frac{1 \times 2}{2 \times 2} \Rightarrow \frac{2}{4}$$

$$(ii) \quad \frac{2}{3} \Rightarrow \frac{2 \times 2}{3 \times 2} \Rightarrow \frac{4}{6}$$

$$(iii) \quad \frac{1}{5} \Rightarrow \frac{1 \times 2}{5 \times 2} \Rightarrow \frac{2}{10}$$

$$(iv) \quad \frac{2}{5} \Rightarrow \frac{2 \times 2}{5 \times 2} \Rightarrow \frac{4}{10}$$

$$(v) \quad \frac{2}{7} \Rightarrow \frac{2 \times 2}{7 \times 2} \Rightarrow \frac{4}{14}$$

Q2. Write the answer by identifying whether each fractions below equivalent or not.

$$(a) \quad \frac{3}{4} \text{ and } \frac{6}{8} \Rightarrow \frac{3 \times 2}{4 \times 2} \Rightarrow \frac{6}{8} \Rightarrow 3 \times 8 = 6 \times 4$$

(Yes)

$$(b) \quad \frac{4}{6} \text{ and } \frac{1}{3} \Rightarrow \frac{4 \times 1}{6 \times 1} \Rightarrow \frac{4}{6} \Rightarrow 4 \times 3 \neq 6 \times 1$$

(No)

$$(iii) \frac{3}{6} + \frac{4}{8} \Rightarrow \frac{\cancel{3} \times 4}{\cancel{6} \times 8} = \frac{12}{48} \Rightarrow \frac{24}{24} \Rightarrow \frac{3 \times 8}{6 \times 4} \text{ (yes)}$$

$$(iv) \frac{1}{7} + \frac{2}{14} \Rightarrow \frac{\cancel{1} \times 2}{\cancel{7} \times 14} = \frac{2}{14} = \frac{1 \times 14}{7 \times 2} \text{ (yes)}$$

$$(v) \frac{3}{6} + \frac{6}{12} \Rightarrow \frac{\cancel{3} \times 6}{\cancel{6} \times 12} = \frac{18}{72} \Rightarrow \frac{36}{36} \Rightarrow 3 \times 12 = 6 \times 6 \text{ (yes)}$$

$$(vi) \frac{2}{3} + \frac{3}{6} \Rightarrow \frac{\cancel{2} \times 3}{\cancel{3} \times 6} = \frac{6}{18} \Rightarrow \frac{12}{9} \Rightarrow 2 \times 6 \neq 3 \times 3 \text{ (NO)}$$

Q 3. Find the equivalent fractions of the following by multiplying 3 to numerator and denominator:-

$$(i) \frac{1}{4} \Rightarrow \frac{1 \times 3}{4 \times 3} \Rightarrow \frac{3}{12}$$

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

$$(iii) \frac{2}{5} \Rightarrow \frac{2 \times 3}{5 \times 3} \Rightarrow \frac{6}{15}$$

$$(iv) \frac{2}{7} \Rightarrow \frac{2 \times 3}{7 \times 3} \Rightarrow \frac{6}{21}$$

$$(v) \frac{1}{6} \Rightarrow \frac{1 \times 3}{6 \times 3} \Rightarrow \frac{3}{18}$$

Q4. Find the equivalent fractions of the following by multiplying 2, 3 and 4 to numerator and denominator :-

(i) $\frac{1}{4}$

$$\frac{1}{4} = \frac{2}{8} = \frac{3}{12} = \frac{4}{16}$$

Ans $\frac{1}{4} \times \frac{2}{2} \Rightarrow \frac{2}{8}$, $\frac{1}{4} \times \frac{3}{3} \Rightarrow \frac{3}{12}$, $\frac{1}{4} \times \frac{4}{4} = \frac{4}{16}$

(ii) $\frac{2}{3}$

As $\frac{2}{3} \times \frac{2}{2} = \frac{4}{6}$, $\frac{2}{3} \times \frac{3}{3} = \frac{6}{9}$, $\frac{2}{3} \times \frac{4}{4} = \frac{8}{12}$

$$\Rightarrow \frac{2}{3} = \frac{4}{6} = \frac{6}{9} = \frac{8}{12}$$

(iii) $\frac{2}{5}$

As $\frac{2}{5} \times \frac{2}{2} = \frac{4}{10}$, $\frac{2}{5} \times \frac{3}{3} = \frac{6}{15}$, $\frac{2}{5} \times \frac{4}{4} = \frac{8}{20}$

$$\frac{2}{5} = \frac{4}{10} = \frac{6}{15} = \frac{8}{20}$$

(iv) $\frac{3}{4}$

Ans $\frac{3}{4} \times \frac{2}{2} = \frac{6}{8}$, $\frac{3}{4} \times \frac{3}{3} = \frac{9}{12}$, $\frac{3}{4} \times \frac{4}{4} = \frac{12}{16}$

$$\frac{3}{4} = \frac{6}{8} = \frac{9}{12} = \frac{12}{16}$$

Q5. Write equivalent fractions of the following
 $\frac{1}{3}$ and $\frac{2}{3}$

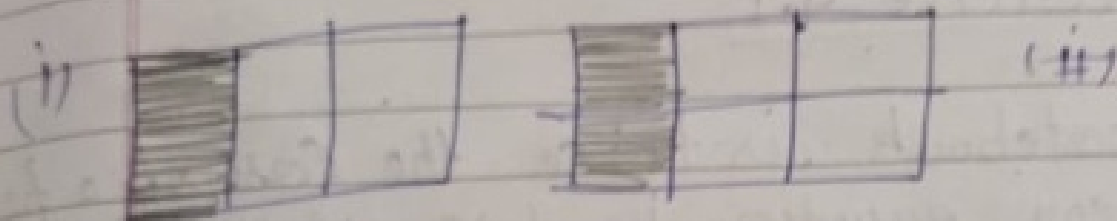
Ans $\frac{1}{3} \times \frac{2}{2} = \frac{2}{6}$ (ii) $\frac{2}{3} \times \frac{2}{2} = \frac{4}{6}$

$$\frac{1}{3} \times \frac{3}{3} = \frac{3}{9} \quad \frac{2}{3} \times \frac{3}{3} = \frac{6}{9}$$

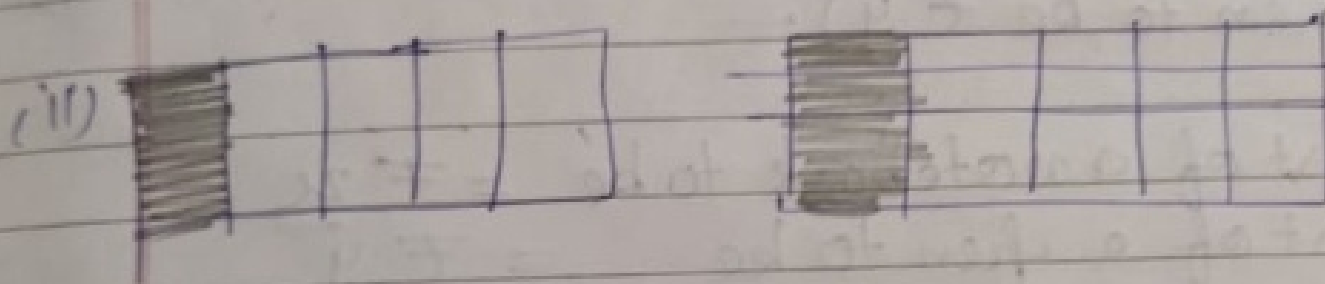
$$\frac{1}{3} \times \frac{4}{4} = \frac{4}{12} \quad \frac{2}{3} \times \frac{4}{4} = \frac{8}{12}$$

$$\frac{1}{3} = \frac{2}{6} = \frac{3}{9} = \frac{4}{12} \quad \frac{2}{3} = \frac{4}{6} = \frac{6}{9} = \frac{8}{12}$$

Q6. Show the given fractions by shading the figures.



$$\frac{1}{3} = \frac{2}{6}$$



$$\frac{1}{5} = \frac{3}{15}$$

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Q7. Fill in the blanks:-

(i) $\frac{1}{3} \times \frac{3}{3} = \frac{\boxed{3}}{9}$

(ii) $\frac{2}{5} \times \frac{3}{3} = \frac{\boxed{6}}{15}$

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

(iv) $\frac{3}{4} \times \frac{6}{6} = \frac{18}{24}$

(v) $\frac{14 \div 7}{21 \div 7} = \frac{\boxed{2}}{3}$

(vi) $\frac{12 \div 4}{16 \div 4} = \frac{3}{\boxed{4}}$

Q8. Find out 4 equivalent fractions of each of the following fraction.

(a) $\frac{2}{3} \Rightarrow \frac{4}{6} = \frac{6}{9} = \frac{8}{12} = \frac{10}{15}$

(b) $\frac{3}{4} \Rightarrow \frac{6}{8} = \frac{9}{12} = \frac{12}{16} = \frac{15}{20}$

(c) $\frac{3}{5} \Rightarrow \frac{6}{10} = \frac{9}{15} = \frac{12}{20} = \frac{15}{25}$

(d) $\frac{5}{6} \Rightarrow \frac{10}{12} = \frac{15}{18} = \frac{20}{24} = \frac{25}{30}$

(e) $\frac{2}{7} \Rightarrow \frac{4}{14} = \frac{6}{21} = \frac{8}{28} = \frac{10}{35}$

Q9. Give such examples in which $\frac{1}{4}$ part obtained by distributing equally:-

$$\frac{1}{4} = \frac{2}{8} = \frac{3}{12} = \dots$$

Ans $\frac{1}{4} = \frac{2}{8} = \frac{3}{12} = \frac{4}{16} = \frac{5}{20} = \frac{6}{24} \dots$ etc.

Q10. Write any four equivalent fractions of $\frac{1}{5}$

Ans $\frac{1}{5} \times \frac{2}{2} \Rightarrow \frac{2}{10}$

$$\frac{1}{5} \times \frac{3}{3} \Rightarrow \frac{3}{15}$$

$$\frac{1}{5} \times \frac{4}{4} \Rightarrow \frac{4}{20}$$

$$\frac{1}{5} \times \frac{5}{5} \Rightarrow \frac{5}{25}$$

$$\frac{2}{10} = \frac{3}{15} = \frac{4}{20} = \frac{5}{25}$$

3. Q11. Kumkum bought a ribbon of 6 m length from the market. She want to distribute it among her four friends, then find how long ribbon will each of her friend get?

Ans Total length of ribbon = 6m.

No. of friends = 4

Length of ribbon which get every friend = $\frac{6}{4} = \frac{3}{2}$

$$\begin{array}{r} 2 \overline{) 3} \\ \underline{- 2} \\ 1R \end{array}$$

$\Rightarrow 1 \frac{1}{2}$ m, Ans.

Q12. Saraswati needs $1 \frac{1}{4}$ m cloth to make a shirt. Find the length of ⁴ cloth to make 2 such shirt.

Ans Required cloth for 1 shirt $\Rightarrow 1 \frac{1}{4}$ m.

Required cloth for 2 shirt $\Rightarrow 1 \frac{1}{4} \times 2$

$$\begin{array}{r} 2 \\ 2 \overline{) 5} \\ \underline{- 4} \\ 1R \end{array}$$

$$\begin{array}{r} 5 \\ \frac{1}{4} \times 2 \\ \hline 2 \end{array}$$

$$\Rightarrow \frac{5}{2}$$

$\Rightarrow 2 \frac{1}{2}$ m.