



## Exercise 5C

Q1

**Answer :**

$$(i) \frac{2}{3} = \frac{2 \times 2}{3 \times 2} = \frac{2 \times 3}{3 \times 3} = \frac{2 \times 4}{3 \times 4} = \frac{2 \times 5}{3 \times 5} = \frac{2 \times 6}{3 \times 6}$$

$$\therefore \frac{2}{3} = \frac{4}{6} = \frac{6}{9} = \frac{8}{12} = \frac{10}{15} = \frac{12}{18}$$

Hence, the five fractions equivalent to  $\frac{2}{3}$  are  $\frac{4}{6}$ ,  $\frac{6}{9}$ ,  $\frac{8}{12}$ ,  $\frac{10}{15}$  and  $\frac{12}{18}$ .

$$(ii) \frac{4}{5} = \frac{4 \times 2}{5 \times 2} = \frac{4 \times 3}{5 \times 3} = \frac{4 \times 4}{5 \times 4} = \frac{4 \times 5}{5 \times 5} = \frac{4 \times 6}{5 \times 6}$$

$$\therefore \frac{4}{5} = \frac{8}{10} = \frac{12}{15} = \frac{16}{20} = \frac{20}{25} = \frac{24}{30}$$

Hence, the five fractions equivalent to  $\frac{4}{5}$  are  $\frac{8}{10}$ ,  $\frac{12}{15}$ ,  $\frac{16}{20}$ ,  $\frac{20}{25}$  and  $\frac{24}{30}$ .

$$(iii) \frac{5}{8} = \frac{5 \times 2}{8 \times 2} = \frac{5 \times 3}{8 \times 3} = \frac{5 \times 4}{8 \times 4} = \frac{5 \times 5}{8 \times 5} = \frac{5 \times 6}{8 \times 6}$$

$$\therefore \frac{5}{8} = \frac{10}{16} = \frac{15}{24} = \frac{20}{32} = \frac{25}{40} = \frac{30}{48}$$

Hence, the five fractions equivalent to  $\frac{5}{8}$  are  $\frac{10}{16}$ ,  $\frac{15}{24}$ ,  $\frac{20}{32}$ ,  $\frac{25}{40}$  and  $\frac{30}{48}$ .

$$(iv) \frac{7}{10} = \frac{7 \times 2}{10 \times 2} = \frac{7 \times 3}{10 \times 3} = \frac{7 \times 4}{10 \times 4} = \frac{7 \times 5}{10 \times 5} = \frac{7 \times 6}{10 \times 6}$$

$$\therefore \frac{7}{10} = \frac{14}{20} = \frac{21}{30} = \frac{28}{40} = \frac{35}{50} = \frac{42}{60}$$

Hence, the five fractions equivalent to  $\frac{7}{10}$  are  $\frac{14}{20}$ ,  $\frac{21}{30}$ ,  $\frac{28}{40}$ ,  $\frac{35}{50}$  and  $\frac{42}{60}$ .

$$(v) \frac{3}{7} = \frac{3 \times 2}{7 \times 2} = \frac{3 \times 3}{7 \times 3} = \frac{3 \times 4}{7 \times 4} = \frac{3 \times 5}{7 \times 5} = \frac{3 \times 6}{7 \times 6}$$

$$\therefore \frac{3}{7} = \frac{6}{14} = \frac{9}{21} = \frac{12}{28} = \frac{15}{35} = \frac{18}{42}$$

Hence, the five fractions equivalent to  $\frac{3}{7}$  are  $\frac{6}{14}$ ,  $\frac{9}{21}$ ,  $\frac{12}{28}$ ,  $\frac{15}{35}$  and  $\frac{18}{42}$ .

$$(vi) \frac{6}{11} = \frac{6 \times 2}{11 \times 2} = \frac{6 \times 3}{11 \times 3} = \frac{6 \times 4}{11 \times 4} = \frac{6 \times 5}{11 \times 5} = \frac{6 \times 6}{11 \times 6}$$

$$\therefore \frac{6}{11} = \frac{12}{22} = \frac{18}{33} = \frac{24}{44} = \frac{30}{55} = \frac{36}{66}$$

Hence, the five fractions equivalent to  $\frac{6}{11}$  are  $\frac{12}{22}$ ,  $\frac{18}{33}$ ,  $\frac{24}{44}$ ,  $\frac{30}{55}$  and  $\frac{36}{66}$ .

$$(vii) \frac{7}{9} = \frac{7 \times 2}{9 \times 2} = \frac{7 \times 3}{9 \times 3} = \frac{7 \times 4}{9 \times 4} = \frac{7 \times 5}{9 \times 5} = \frac{7 \times 6}{9 \times 6}$$

$$\therefore \frac{7}{9} = \frac{14}{18} = \frac{21}{27} = \frac{28}{36} = \frac{35}{45} = \frac{42}{54}$$

Hence, the five fractions equivalent to  $\frac{7}{9}$  are  $\frac{14}{18}$ ,  $\frac{21}{27}$ ,  $\frac{28}{36}$ ,  $\frac{35}{45}$  and  $\frac{42}{54}$ .

$$(viii) \frac{5}{12} = \frac{5 \times 2}{12 \times 2} = \frac{5 \times 3}{12 \times 3} = \frac{5 \times 4}{12 \times 4} = \frac{5 \times 5}{12 \times 5} = \frac{5 \times 6}{12 \times 6}$$

$$\therefore \frac{5}{12} = \frac{10}{24} = \frac{15}{36} = \frac{20}{48} = \frac{25}{60} = \frac{30}{72}$$

Hence, the five fractions equivalent to  $\frac{5}{12}$  are  $\frac{10}{24}$ ,  $\frac{15}{36}$ ,  $\frac{20}{48}$ ,  $\frac{25}{60}$  and  $\frac{30}{72}$ .

## Q2

**Answer :**

The pairs of equivalent fractions are as follows:

$$\begin{array}{ll} (i) \frac{5}{6} \text{ and } \frac{20}{24} & \left( \frac{20}{24} = \frac{5 \times 4}{6 \times 4} \right) \\ (ii) \frac{3}{8} \text{ and } \frac{15}{40} & \left( \frac{15}{40} = \frac{3 \times 5}{8 \times 5} \right) \\ (iv) \frac{2}{9} \text{ and } \frac{14}{63} & \left( \frac{14}{63} = \frac{2 \times 7}{9 \times 7} \right) \end{array}$$

## Q3

**Answer :**

$$(i) \text{ Let } \frac{3}{5} = \frac{\square}{30}$$

Clearly,  $30 = 5 \times 6$

So, we multiply the numerator by 6.

$$\therefore \frac{3}{5} = \frac{3 \times 6}{5 \times 6} = \frac{18}{30}$$

Hence, the required fraction is  $\frac{18}{30}$ .

$$(ii) \text{ Let } \frac{3}{5} = \frac{24}{\square}$$

Clearly,  $24 = 3 \times 8$

So, we multiply the denominator by 8.

$$\therefore \frac{3}{5} = \frac{3 \times 8}{5 \times 8} = \frac{24}{40}$$

Hence, the required fraction is  $\frac{24}{40}$ .

## Q4

**Answer :**

$$(i) \text{ Let } \frac{5}{\square} = \frac{\square}{\square}$$

$$\frac{5}{9} = \frac{\quad}{54}$$

Clearly,  $54 = 9 \times 6$

So, we multiply the numerator by 6.

$$\therefore \frac{5}{9} = \frac{5 \times 6}{9 \times 6} = \frac{30}{54}$$

Hence, the required fraction is  $\frac{30}{54}$ .

(ii) Let  $\frac{5}{9} = \frac{35}{\square}$

Clearly,  $35 = 5 \times 7$

So, we multiply the denominator by 7.

$$\therefore \frac{5}{9} = \frac{5 \times 7}{9 \times 7} = \frac{35}{63}$$

Hence, the required fraction is  $\frac{35}{63}$ .

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