

1. ਹੇਠ ਲਿਖਿਆਂ ਨੂੰ ਹੱਲ ਕਰੋ :-

(i) $4 + \frac{7}{8}$

(ii) $\frac{9}{11} - \frac{4}{15}$

(iii) $\frac{11}{16} - \frac{2}{5} + \frac{8}{10}$

(iv) $2\frac{1}{5} + 6\frac{1}{2}$

(v) $8\frac{1}{2} - 3\frac{5}{8}$

(vi) $\frac{9}{10} - \frac{9}{100} + \frac{9}{1000}$

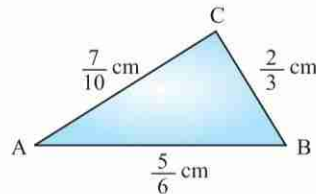
2. ਹੇਠ ਲਿਖਿਆਂ ਨੂੰ ਵੱਧਦੇ ਕ੍ਰਮ ਵਿੱਚ ਲਿਖੋ (ਕ੍ਰਮ ਬੱਧ ਕਰੋ) :-

(i) $\frac{2}{17}, \frac{10}{17}, \frac{3}{17}, \frac{16}{17}, \frac{5}{17}, \frac{8}{17}$

(ii) $\frac{1}{5}, \frac{3}{7}, \frac{7}{10}$

3. $\triangle ABC$ ਦੀਆਂ ਤਿੰਨਾ ਭੁਜਾਵਾਂ AB, BC ਅਤੇ CA ਕ੍ਰਮਵਾਰ $\frac{5}{6}$

cm, $\frac{2}{3}$ cm ਅਤੇ $\frac{7}{10}$ cm ਹਨ। ਤ੍ਰਿਭੁਜ ਦਾ ਪਰਿਮਾਪ ਪਤਾ ਕਰੋ।

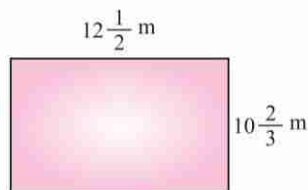


ਭਿੰਨਾਂ ਅਤੇ ਦਸ਼ਮਲਵ

23

4. ਰਮੇਸ਼ ਰੋਜ਼ਾਨਾ $5\frac{2}{3}$ ਘੰਟੇ ਲਈ ਪੜ੍ਹਾਈ ਕਰਦਾ ਹੈ। ਉਹ ਇਸ ਵਿੱਚੋਂ $2\frac{4}{5}$ ਘੰਟੇ ਸਾਇੰਸ ਅਤੇ ਗਣਿਤ ਲਈ ਲਗਾਉਂਦਾ ਹੈ। ਉਹ ਬਾਕੀ ਵਿਸ਼ਿਆਂ ਲਈ ਕਿੰਨਾਂ ਸਮਾਂ ਲਗਾਉਂਦਾ ਹੈ ?

5. ਸੋਨੀਆ $10\frac{2}{3}$ m ਅਤੇ $12\frac{1}{2}$ m ਭੁਜਾਵਾਂ ਵਾਲੇ ਇੱਕ ਆਇਤਾਕਾਰ ਪਾਰਕ ਦੇ ਦੁਆਲੇ ਇੱਕ ਚੱਕਰ ਲਗਾਉਂਦੀ ਹੈ। ਪਤਾ ਕਰੋ ਕਿ ਸੋਨੀਆ ਕਿੰਨੀ ਦੂਰੀ ਤੈਅ ਕਰਦੀ ਹੈ ?



6. ਰਿਤੂ ਨੇ ਇੱਕ ਤਸਵੀਰ ਵਿੱਚ $\frac{7}{12}$ ਘੰਟਿਆਂ ਵਿੱਚ ਰੰਗ ਭਰਿਆ। ਵੈਭਵ ਨੇ ਉਸੇ ਤਸਵੀਰ ਵਿੱਚ $\frac{3}{4}$ ਘੰਟਿਆਂ ਵਿੱਚ ਰੰਗ ਭਰਿਆ। ਕਿਸ ਨੇ ਜ਼ਿਆਦਾ ਸਮਾਂ ਲਈ ਕੰਮ ਕੀਤਾ ਅਤੇ ਕਿੰਨੀ ਜ਼ਿਆਦਾ ਦੇਰ ਲਈ ਕੰਮ ਕੀਤਾ ?

7. ਬਹੁਵਿਕਲਪੀ ਪ੍ਰਸ਼ਨ :-

(i) ਭਿੰਨਾਂ $\frac{2}{5}, \frac{7}{5}, \dots$

(a) ਸਮਾਨ ਭਿੰਨਾਂ ਹਨ

(b) ਅਸਮਾਨ ਭਿੰਨਾਂ ਹਨ

(c) ਤੁੱਲ ਭਿੰਨਾਂ ਹਨ

(d) ਇਨ੍ਹਾਂ ਵਿੱਚੋਂ ਕੋਈ ਨਹੀਂ।

(ii) 8 ਘੰਟੇ, ਦਿਨ ਦਾ ਕਿੰਨਵਾਂ ਹਿੱਸਾ ਦਰਸਾਉਂਦੇ ਹਨ ?

(a) $\frac{1}{2}$

(b) $\frac{1}{3}$

(c) $\frac{8}{60}$

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

(iii) $\frac{3}{5}$ ਦੀ ਤੁੱਲ ਭਿੰਨ ਹੈ

(a) $\frac{13}{15}$

(b) $\frac{5}{3}$

(c) $\frac{9}{15}$

(d) $\frac{5}{13}$

(iv) ਦਿੱਤੀ ਹੋਈ ਤ੍ਰਿਭੁਜ ਵਿੱਚ ਬਿੰਨਾਂ ਰੰਗਿਆ ਖੇਤਰ, ਤ੍ਰਿਭੁਜ ਦਾ ਕਿੰਨਵਾਂ ਭਾਗ ਦਰਸਾਉਂਦਾ ਹੈ ?

(a) $\frac{1}{3}$

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

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

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

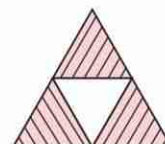
(v) $\frac{2}{7}$ ਅਤੇ $\frac{3}{4}$ ਦਾ ਜੋੜ ਹੈ

(a) $\frac{5}{28}$

(b) $\frac{1}{3}$

(c) $\frac{5}{11}$

(d) $\frac{29}{28}$



EXERCISE - 2.1

1. Solve the following fractions :-

(i) $4 + \frac{7}{8}$

(ii) $\frac{9}{11} - \frac{4}{15}$

(iii) $\frac{11}{16} - \frac{2}{5} + \frac{8}{10}$

(iv) $2\frac{1}{5} + 6\frac{1}{2}$

(v) $8\frac{1}{2} - 3\frac{5}{8}$

(vi) $\frac{9}{10} - \frac{9}{100} + \frac{9}{1000}$

2. Arrange the following in ascending order :-

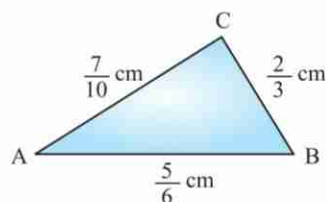
(i) $\frac{2}{17}, \frac{10}{17}, \frac{3}{17}, \frac{16}{17}, \frac{5}{17}, \frac{8}{17}$

(ii) $\frac{1}{5}, \frac{3}{7}, \frac{7}{10}$

3. The three sides AB, BC and CA of a triangle

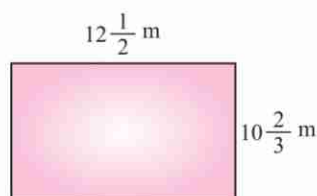
$\triangle ABC$ are $\frac{5}{6} \text{ cm}$, $\frac{2}{3} \text{ cm}$ and $\frac{7}{10} \text{ cm}$ respectively.

Find the perimeter of the triangle.



4. Ramesh studies for $5\frac{2}{3}$ hours daily. He devotes $2\frac{4}{5}$ hours of his time for science and mathematics. How much time does he devote for other subjects ?

5. Sonia jogs once around the rectangular park of sides $10\frac{2}{3} \text{ m}$ and $12\frac{1}{2} \text{ m}$. Find the total distance covered by the Sonia.



6. Ritu coloured a picture in $\frac{7}{12}$ hours. Vaibhav coloured the same picture in $\frac{3}{4}$ hours. Who worked for a longer time and by what fraction ?

7. Multiple Choice Questions :

- (i) Fractions $\frac{2}{5}, \frac{7}{5}$ are

(a) Like fractions

(b) Unlike fractions

(c) Equivalent fractions

(d) None of these

- (ii) What fraction do 8 hours of a day represents

(a) $\frac{1}{2}$

(b) $\frac{1}{3}$

(c) $\frac{8}{60}$

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

- (iii) Equivalent fraction of $\frac{3}{5}$ is

(a) $\frac{13}{15}$

(b) $\frac{5}{3}$

(c) $\frac{9}{15}$

(d) $\frac{5}{13}$

- (iv) Shaded area of given triangle represents the fraction

(a) $\frac{1}{3}$

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

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

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



- (v) Sum of fractions $\frac{2}{7}$ and $\frac{3}{4}$ is equal to :

(a) $\frac{5}{28}$

(b) $\frac{1}{3}$

(c) $\frac{5}{11}$

(d) $\frac{29}{28}$

ਭਿੰਨਾਂ ਅਤੇ ਦਸ਼ਮਲਵ

ਭਿੰਨ = Fraction = $\frac{p}{q}$ ਜਿਸਨੂੰ ਦਸ਼ਮਲਵ ਵੀ ਕਹਿੰਦੇ ਹਨ।
Fraction is a number that represents part of a whole.
 $\frac{p}{q} = \frac{\text{ਨਿਸ਼ਾਨ}}{\text{ਭਾਗ}} = \frac{\text{numerator}}{\text{denominator}}$

$$\frac{5}{7}, \frac{11}{9}, \frac{15}{71}, \frac{19}{7}, \frac{1}{2}, 2\frac{4}{5}$$

① ਭਿੰਨ ਭਿੰਨ = Proper Fraction. ਜਿਸਦਾ ਨਿਸ਼ਾਨ, ਭਾਗ ਨਾਲੋਂ ਛੋਟਾ ਹੁੰਦਾ ਹੈ।
whose numerator is less than its denominator.

$$= \frac{2}{3}, \frac{5}{7}, \frac{9}{13}, \frac{11}{99}, \frac{107}{785}$$

② ਅਸੰਤੁਲਿਤ ਭਿੰਨ = Improper Fraction, ਜਿਸਦਾ ਨਿਸ਼ਾਨ, ਭਾਗ ਨਾਲੋਂ ਵੱਡਾ ਹੁੰਦਾ ਹੈ।
whose numerator is greater than its denominator.

$$\frac{3}{2}, \frac{7}{5}, \frac{13}{9}, \frac{99}{11}, \frac{8}{5}$$

③ ਸਮਾਨ ਭਿੰਨ = Like Fractions = ਜਿਹਨਾਂ/ਜਿਹਨਾਂ ਦਾ ਭਾਗ ਬਰਾਬਰ ਹੋਵੇ।
Fractions having the same denominators.

$$\frac{1}{7}, \frac{2}{7}, \frac{8}{7}$$

④ ਅਸਮਾਨ ਭਿੰਨ = Unlike Fractions. ਜਿਹਨਾਂ ਭਿੰਨਾਂ ਦਾ ਭਾਗ ਵੱਖ-ਵੱਖ ਹੋਵੇ।
Fractions having the different denominators.

$$\frac{3}{8}, \frac{2}{5}, \frac{5}{7}, \frac{1}{19}$$

⑤ ਮਿਸ਼ਰਿਤ ਭਿੰਨ = Mixed Fraction = ਧਰਮ ਅਤੇ ਭਿੰਨ ਭਿੰਨ ਦਾ ਜੋੜ।
These are sum of a natural number and a proper fraction.

$$1\frac{2}{5} = 1 + \frac{2}{5} = \frac{5 \times 1 + 2}{5} = \frac{5+2}{5} = \frac{7}{5}$$

ਧਰਮ = 1 ਅਤੇ 2 ਧਰਮ 5
1 into 2 over 5

⑥ सम भिन्न = Equivalent Fractions.

These ~~rep~~ represents the same part of a whole.

ਜਿਹਨਾਂ ਦਾ ਮੁੱਲ ਪੂਰਾ ਦੇ ਬਰਾਬਰ ਹੁੰਦਾ ਹੈ।

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

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

$$\frac{2}{4} = \frac{1}{2}$$

$$\frac{4}{8} = \frac{1}{2}$$

$$\therefore \frac{1}{2}, \frac{2}{4}, \frac{3}{6}, \frac{4}{8} \text{ ਸਮ भिन्न ਹਨ।}$$

* Ex. 2.1 *

① ਹੱਲ ਕਰੋ:- Solve the following Fractions:-

$$\begin{aligned} \text{I. } 4 + \frac{7}{8} &= \frac{4 \times 8 + 7}{1 \times 8} = \frac{32 + 7}{8} = \frac{39}{8} \end{aligned}$$

$$\text{II. } \frac{9}{11} - \frac{4}{15}$$

$$\text{LCM of } 11, 15 = 165$$

$$\begin{array}{r|l} 11 & 11-15 \\ 3 & 1-15 \\ 5 & 1-5 \\ & 1-1 \end{array}$$

$$\frac{9}{11} = \frac{9}{11} \times \frac{15}{15} = \frac{135}{165}$$

$$\text{LCM} = 11 \times 3 \times 5 = 165$$

$$\frac{4}{15} = \frac{4}{15} \times \frac{11}{11} = \frac{44}{165}$$

$$\begin{aligned} \therefore \frac{9}{11} - \frac{4}{15} &= \frac{135}{165} - \frac{44}{165} = \frac{135 - 44}{165} \\ &= \frac{91}{165} \end{aligned}$$

$$\text{I } 4 + \frac{7}{8} = 4\frac{7}{8} = \frac{8 \times 4 + 7}{8} = \frac{32 + 7}{8} = \frac{39}{8}$$

III. $\frac{11}{6} - \frac{2}{5} + \frac{8}{10}$

LCM = 30

$\frac{11}{6} = \frac{11 \times 5}{6 \times 5} = \frac{55}{30}$

$\frac{2}{5} = \frac{2 \times 6}{5 \times 6} = \frac{12}{30}$

$\frac{8}{10} = \frac{8 \times 3}{10 \times 3} = \frac{24}{30}$

$\therefore \frac{11}{6} - \frac{2}{5} + \frac{8}{10} = \frac{55}{30} - \frac{12}{30} + \frac{24}{30}$

$= \frac{55 - 12 + 24}{30}$

$= \frac{79 - 12}{30} = \frac{67}{30}$

2	6-5-10
3	3-5-5
5	1-5-5
	1-1-1

$\therefore \text{LCM} = 2 \times 3 \times 5 = 30$

IV. $2\frac{1}{5} + 6\frac{1}{2}$

$= (2 + \frac{1}{5}) + (6 + \frac{1}{2})$

$= (2 + 6) + \frac{1}{5} + \frac{1}{2}$

$= 8 + \frac{1 \times 2 + 1 \times 5}{5 \times 2} = 8 + \frac{2 + 5}{10}$

$= 8 + \frac{7}{10} = 8\frac{7}{10}$

$$\text{IV. } 2\frac{1}{5} + 6\frac{1}{2}$$

$$= \frac{11}{5} + \frac{13}{2}$$

$$= \frac{11 \times 2 + 13 \times 5}{5 \times 2} = \frac{22 + 65}{10}$$

$$= \frac{87}{10} = 8\frac{7}{10} \text{ Ans.}$$

$$2\frac{1}{5} = \frac{5 \times 2 + 1}{5}$$

$$= \frac{10+1}{5} = \frac{11}{5}$$

$$6\frac{1}{2} = \frac{2 \times 6 + 1}{2}$$

$$= \frac{12+1}{2} = \frac{13}{2}$$

$$\begin{array}{r} 10 \overline{) 87} \quad (8) \\ \underline{-80} \\ 7 \end{array} \leftarrow \text{into over}$$

$$\text{V. } 8\frac{1}{2} - 3\frac{5}{8}$$

$$= \frac{17}{2} - \frac{29}{8} = \frac{17 \times 8 - 29 \times 2}{2 \times 8}$$

$$= \frac{136 - 58}{16} = \frac{78}{16} = \frac{39}{8}$$

$$= \frac{39}{8} = 4\frac{7}{8}$$

$$\begin{array}{r} 8 \overline{) 39} \quad (4) \\ \underline{-32} \\ 7 \end{array} \leftarrow \text{शेष}$$

$$8\frac{1}{2} = \frac{2 \times 8 + 1}{2}$$

$$= \frac{16+1}{2}$$

$$= \frac{17}{2}$$

$$3\frac{5}{8} = \frac{8 \times 3 + 5}{8}$$

$$= \frac{24+5}{8} = \frac{29}{8}$$

$$\text{VI. } \frac{9}{10} - \frac{9}{100} + \frac{9}{1000}$$

$$\text{LCM} = 1000$$

$$\frac{9}{10} = \frac{9 \times 100}{10 \times 100} = \frac{900}{1000}$$

$$\frac{9}{100} = \frac{9 \times 10}{100 \times 10} = \frac{90}{1000}$$

$$\therefore \frac{9}{10} - \frac{9}{100} + \frac{9}{1000}$$

$$= \frac{900}{1000} - \frac{90}{1000} + \frac{9}{1000}$$

$$= \frac{900 - 90 + 9}{1000} = \frac{819}{1000}$$

$$2 \mid 10 - 100 - 1000$$

$$2 \mid 5 - 50 - 500$$

$$5 \mid 5 - 25 - 250$$

$$5 \mid 1 - 5 - 50$$

$$5 \mid 1 - 1 - 10$$

$$2 \mid 1 - 1 - 2$$

$$1 - 1 - 1$$

$$\text{LCM} = 2 \times 2 \times 5 \times 5 \times 5 \times 2$$

$$= 4 \times 25 \times 10$$

$$= 40 \times 20 = 1000$$

② दएत नुम दिओ सिधः :-
Arrange in ascending order :-

$$I. \frac{2}{17}, \frac{10}{17}, \frac{3}{17}, \frac{16}{17}, \frac{5}{17}, \frac{8}{17}$$

$$= \frac{2}{17}, \frac{3}{17}, \frac{5}{17}, \frac{8}{17}, \frac{10}{17}, \frac{16}{17}$$

सिध उठ समान छ | Here denomi. are same.

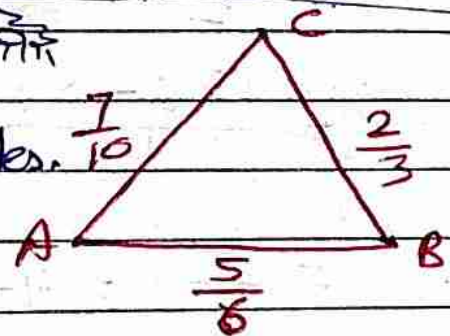
$$II. \frac{1}{5}, \frac{3}{7}, \frac{7}{10}$$

$$= \frac{1}{5}, \frac{3}{7}, \frac{7}{10}$$

③ परिमिटर = डिगि कुनहो रा नैछ

P = Perimeter = Sum of all sides.

$$\therefore P = \frac{7}{10} + \frac{2}{3} + \frac{5}{6}$$



$$LCM = 30$$

$$\frac{7}{10} = \frac{7 \times 3}{10 \times 3} = \frac{21}{30}$$

$$\frac{2}{3} = \frac{2 \times 10}{3 \times 10} = \frac{20}{30}$$

$$\frac{5}{6} = \frac{5 \times 5}{6 \times 5} = \frac{25}{30}$$

$$\therefore \frac{7}{10} + \frac{2}{3} + \frac{5}{6} = \frac{21}{30} + \frac{20}{30} + \frac{25}{30}$$

$$= \frac{21+20+25}{30} = \frac{66}{30} = \frac{11}{5} \text{ cm}$$

$$\frac{11}{5} = 2\frac{1}{5} \text{ cm}$$

$$\begin{array}{r|l} 2 & 10-3-6 \\ 3 & 5-3-3 \\ 5 & 5-1-1 \\ \hline & 1-1-1 \end{array}$$

$$LCM = 2 \times 3 \times 5 = 30$$

$$\begin{array}{r} 5 \overline{) 11} \quad 2 \\ \underline{-10} \\ 1 \end{array}$$

4.

Time for Math, Science

~~Time for other subjects~~

$$\begin{array}{r|l} 3 & 3-5 \\ \hline 5 & 1-5 \\ \hline & 1-1 \end{array}$$

$$LCM = 3 \times 5$$

$$= 15$$

$$\therefore \frac{17}{3} - \frac{14}{5} = \frac{85}{15} - \frac{42}{15} = \frac{85-42}{15}$$

$$= \frac{43}{15} = 2 \frac{13}{15} \quad \text{or} \quad \begin{array}{r} 15 \overline{) 43} \\ \underline{-30} \\ 13 \end{array}$$

⑤

$$\frac{5}{8} \lambda = 10 \frac{2}{3} \text{ m} = B.$$

$$\therefore \text{हुरी} = \text{आडि र पमिप} = 2 \times (L+B)$$

Distance = Perimeter of Rectangle: 3513946
 -12

$$= 2 \times \left(12\frac{1}{2} + 10\frac{2}{3} \right) m$$

~~$$= 2 \times \left(12 + 10 + \frac{1}{2} + \frac{3}{3} \right) = 2 \times \left(22 + \frac{3+4}{6} \right)$$~~

$$= 2 \times \left(22 + \frac{7}{6} \right) = 2 \times \left(\frac{132+7}{6} \right) = 2 \times \left(\frac{139}{6} \right)$$

$$= \frac{139}{3} = 46\frac{1}{3} \text{ m} \quad \text{Ans.}$$

(5) Ans. $L = 12\frac{1}{2} \text{ m} = \frac{24+1}{2} = \frac{25}{2} \text{ m}$

$B = 10\frac{2}{3} \text{ m} = \frac{30+2}{3} = \frac{32}{3} \text{ m}$

$\therefore \text{Perimeter} = 2 \times (L+B)$

$= 2 \times \left(\frac{25}{2} + \frac{32}{3} \right) = 2 \times \left(\frac{25 \times 3 + 32 \times 2}{6} \right)$

$= 2 \times \left(\frac{75+64}{6} \right) = \frac{139}{3}$

$= 46\frac{1}{3} \text{ m. Ans.}$

$$\begin{array}{r} 46 \\ 3 \overline{) 139} \\ \underline{-12} \\ 19 \\ \underline{-18} \\ 1 \end{array}$$

(6) Ans. मंथने परिक्रम समान बिंदु पर होती है।

First express them in Like Frac.

$\frac{7}{12}, \frac{3}{4}$

$\text{LCM} = 12$

$\frac{7}{12} = \frac{7}{12}$

$\frac{3}{4} = \frac{3 \times 3}{4 \times 3} = \frac{9}{12}$

$$\begin{array}{r} 2 \overline{) 12-4} \\ \underline{2} \\ 6-2 \\ \underline{2} \\ 3 \\ \underline{3} \\ 0 \end{array}$$

$\text{LCM} = 2 \times 2 \times 3 = 12$

यहाँ $9 > 7$

$\therefore \frac{9}{12} > \frac{7}{12}$ या $\frac{3}{4} > \frac{7}{12}$

$\therefore$ वैभव ने कम समय लगाया है।
Vaibhav worked for a longer time.

How much time worked

Date _____

Page _____

$$\begin{aligned} \text{Time worked} &= \frac{3}{4} - \frac{7}{12} = \frac{9}{12} - \frac{7}{12} \\ &= \frac{9-7}{12} = \frac{2}{12} = \frac{1}{6} \text{ hr.} \end{aligned}$$

7. Ans.

I. Which $\frac{2}{5}, \frac{7}{5}$ _____ = a

(a) समान भिन्न = Like Frac. (b) असमान भिन्न = Unlike Frac.

(c) बराबर भिन्न = Equivalent Frac. (d) किसी भी.

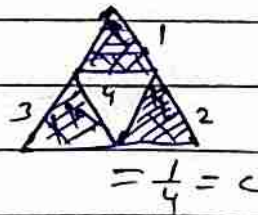
II. 8 घंटे, दिन का कितने हिस्सा है? = $\frac{8}{24} = \frac{1}{3}$ = None of these.

(a) $\frac{1}{2}$ (b) $\frac{1}{3}$ (c) $\frac{8}{60}$ (d) $\frac{2}{3}$

III. $\frac{3}{5}$ का बराबर भिन्न $\frac{9}{15}$ है। Equivalent frac. of $\frac{3}{5} =$

(a) $\frac{13}{15}$ (b) $\frac{5}{3}$ (c) $\frac{9}{15}$ (d) $\frac{5}{13}$

IV. दिया है त्रिभुज जिसका क्षेत्रफल 9 है, त्रिभुज का कितना भाग छाया है? Shaded area of given triangle represents the fraction:-



(a) $\frac{1}{3}$ (b) $\frac{3}{4}$ (c) $\frac{1}{4}$ (d) $\frac{2}{3}$

V. $\frac{2}{7}$ में $\frac{3}{4}$ का जोड़ _____ है। Sum of $\frac{2}{7}$ and $\frac{3}{4} =$

(a) $\frac{5}{28}$ (b) $\frac{1}{3}$ (c) $\frac{5}{11}$ (d) $\frac{29}{28}$

$$\frac{2}{7} + \frac{3}{4} = \frac{8+21}{28} = \frac{29}{28} = d$$

* ————— *