

EX. 9.2

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

Q Find the sum.

$$\begin{aligned} \text{(i)} \quad \frac{6}{9} + \frac{2}{9} \\ = \frac{6+2}{9} \\ = \frac{8}{9} \end{aligned}$$

$$\begin{aligned} \text{(ii)} \quad \frac{-15}{7} + \frac{9}{7} \\ = \frac{-15+9}{7} \\ = \frac{-6}{7} \end{aligned}$$

$$\begin{aligned} \text{(iii)} \quad \frac{17}{11} + \left(\frac{-9}{11} \right) \\ = \frac{17}{11} - \frac{9}{11} \\ = \frac{17-9}{11} \\ = \frac{8}{11} \end{aligned}$$

$$\text{(iv)} \quad \frac{-5}{6} + \frac{3}{18}$$

6, 18 $\Rightarrow$ g.c.f. = 6
L.C.M of 6, 18 = 18

$$= \frac{-5 \times 3}{6 \times 3} + \frac{3 \times 1}{18 \times 1}$$

$$= \frac{-15}{18} + \frac{3}{18}$$

$$= \frac{-15+3}{18}$$

$$= \frac{-12}{18} = -\frac{2}{3}$$

$$\text{(v)} \quad \frac{-7}{19} + \frac{-3}{38}$$

$$= \frac{-7}{19} - \frac{3}{38}$$

19, 38 $\Rightarrow$ g.c.f. = 38
L.C.M of 19, 38 = 38

$$= \frac{-7 \times 2}{19 \times 2} - \frac{3 \times 1}{38 \times 1}$$

$$= \frac{-14}{38} - \frac{3}{38}$$

$$= \frac{-14-3}{38}$$

$$= \frac{-17}{38}$$

$$\text{(vi)} \quad -3\frac{4}{7} + 2\frac{3}{7}$$

$$= -\frac{25}{7} + \frac{17}{7}$$

$$= \frac{-25+17}{7}$$

$$= -\frac{8}{7}$$

$$\text{(vii)} \quad \frac{-5}{14} + \frac{8}{21}$$

14, 21 $\Rightarrow$ g.c.f. = 7
L.C.M of 14, 21 = 42

$$\begin{array}{r|l} 7 & 14-81 \\ \hline 2 & 2-3 \\ \hline 3 & 1-3 \\ \hline & 1-1 \end{array}$$

$$7 \times 2 \times 3 = 42$$

$$= \frac{-5 \times 3}{14 \times 3} + \frac{8 \times 2}{21 \times 2}$$

$$= \frac{-15}{42} + \frac{16}{42}$$

$$= \frac{-15+16}{42}$$

$$= \frac{1}{42}$$

$$\text{(viii)} \quad -4\frac{1}{15} + 3\frac{2}{20}$$

$$= -\frac{61}{15} + \frac{62}{20}$$

15, 20 $\Rightarrow$ g.c.f. = 60
L.C.M of 15, 20 = 60

$$\begin{array}{r|l} 5 & 15-20 \\ \hline 3 & 3-4 \\ \hline 2 & 1-4 \\ \hline 2 & 1-2 \\ \hline & 1-1 \end{array}$$

$$2 \times 2 \times 3 \times 5 = 60$$

$$= \frac{-61 \times 4}{15 \times 4} + \frac{62 \times 3}{20 \times 3}$$

$$= \frac{-244}{60} + \frac{186}{60}$$

$$= \frac{-244+186}{60}$$

$$= \frac{-58}{60} = -\frac{29}{30}$$

(2) 43T 72. Find

(i) $\frac{7}{12} - \frac{11}{36}$

12, 36 $\Rightarrow$ 2, 3, 2 = 36
L.C.M of 12, 36

$$\begin{array}{r|l} 2 & 12 - 36 \\ \hline 2 & 6 - 18 \\ \hline 3 & 3 - 9 \\ \hline 3 & 1 - 3 \\ \hline & 1 - 1 \end{array}$$

$2 \times 2 \times 3 \times 3 = 36$

$$\frac{7 \times 3}{12 \times 3} - \frac{11 \times 1}{36 \times 1}$$

$$= \frac{21}{36} - \frac{11}{36}$$

$$= \frac{21 - 11}{36}$$

$$= \frac{10}{36} = \frac{5}{18}$$

(iii) $-\frac{7}{13} - (-\frac{5}{91})$

$$-\frac{7}{13} + \frac{5}{91}$$

13, 91 $\Rightarrow$ 7, 13 = 91
L.C.M of 13, 91 = 91

$$\frac{-7 \times 7}{13 \times 7} + \frac{5 \times 1}{91 \times 1}$$

$$= \frac{-49}{91} + \frac{5}{91}$$

$$= \frac{-49 + 5}{91}$$

$$= \frac{-44}{91}$$

(v) $3\frac{4}{9} - \frac{28}{63}$

$$\frac{31}{9} - \frac{28}{63}$$

9, 63 $\Rightarrow$ 7, 9 = 63
L.C.M of 9, 63 = 63

$$\frac{31 \times 7}{9 \times 7} - \frac{28 \times 1}{63 \times 1}$$

(ii) $-\frac{5}{9} - \frac{3}{5}$

5, 9 $\Rightarrow$ 3, 3, 2 = 45
L.C.M of 5, 9

$$\begin{array}{r|l} 5 & 5 - 9 \\ \hline 3 & 1 - 9 \\ \hline 3 & 1 - 3 \\ \hline & 1 - 1 \end{array}$$

$5 \times 3 \times 3 = 45$

$$-\frac{5 \times 5}{9 \times 5} - \frac{3 \times 9}{5 \times 9}$$

$$= -\frac{25}{45} - \frac{27}{45}$$

$$= \frac{-25 - 27}{45}$$

$$= \frac{-52}{45}$$

(iv) $\frac{6}{11} - \frac{-3}{4}$

4, 11 $\Rightarrow$ 4, 11 = 44
L.C.M of 4, 11 = 44

$$\frac{6 \times 4}{11 \times 4} + \frac{3 \times 11}{4 \times 11}$$

$$= \frac{24}{44} + \frac{33}{44}$$

$$= \frac{24 + 33}{44}$$

$$= \frac{57}{44}$$

$$= \frac{317}{63} - \frac{28}{63}$$

$$= \frac{189 - 28}{63} = 3$$

(3) गुणन करें Find the product of

(i) $\frac{5}{9} \times \frac{-2}{8} = \frac{-5}{24}$ (ii) $\frac{-8}{1} \times \frac{1}{3} = \frac{-8}{3} = -2\frac{2}{3}$ (iii) $\frac{3}{13} \times \frac{5}{8} = \frac{15}{104}$

(iv) $\frac{3}{10} \times (-18) = \frac{3}{10} \times \frac{-18 \times 9}{1} = \frac{-27}{5}$

(4) मूल्य बताइए Find the value

(i) $-9 \div \frac{3}{5}$
 $= -9 \times \frac{5}{3}$
 $= \frac{-45}{1}$
 $= -15$

(ii) $-\frac{4}{7} \div \frac{4}{1}$
 $= -\frac{4}{7} \times \frac{1}{4}$
 $= \frac{-1}{7}$

(iii) $\frac{7}{18} \div \frac{5}{8}$
 $= \frac{7}{18} \times \frac{8}{5}$
 $= \frac{7}{15}$

(iv) $-\frac{8}{35} \div \left(-\frac{2}{7}\right)$
 $= -\frac{8}{35} \times \frac{-7}{2}$
 $= \frac{+4}{5}$
 $= \frac{4}{5}$

(v) $-\frac{9}{15} \div -\frac{18}{1}$
 $= -\frac{9}{15} \times \frac{-1}{18}$
 $= \frac{+1}{30}$
 $= \frac{1}{30}$

(5) $-\frac{5}{12}$ से निम्नी परिमेय संख्या मिली जाए कि $-\frac{7}{8}$ प्राप्त हो जाए।
 What rational number should be added to $-\frac{5}{12}$ to get $-\frac{7}{8}$
 किसे मिलनी चाहिए संख्या x

$$-\frac{5}{12} + x = -\frac{7}{8}$$

$$x = -\frac{7}{8} + \frac{5}{12}$$

$$8, 12 \text{ का घ.ग.स.} = 24$$

$$x = \frac{-7 \times 3}{8 \times 3} + \frac{5 \times 2}{12 \times 2}$$

$$= \frac{-21}{24} + \frac{10}{24}$$

$$= \frac{-21 + 10}{24}$$

$$= \frac{-11}{24}$$

Let required number = x

$$-\frac{5}{12} + x = -\frac{7}{8}$$

$$x = -\frac{7}{8} + \frac{5}{12}$$

$$\text{L.C.M of } 8, 12 = 24$$

$$x = \frac{-7 \times 3}{8 \times 3} + \frac{5 \times 2}{12 \times 2}$$

$$= \frac{-21}{24} + \frac{10}{24}$$

$$= \frac{-21 + 10}{24}$$

$$= \frac{-11}{24}$$

(6) $-\frac{2}{3}$ (रैशियल) निरन्तर गणितमा गटाएँ ग्राहे नि $-\frac{5}{6}$ या 43 3 ग्राहे
 What number should be subtracted from $-\frac{2}{3}$ to get $-\frac{5}{6}$

अन कस कसरी गणितमा $= x$

$$-\frac{2}{3} - x = -\frac{5}{6}$$

$$-\frac{2}{3} + \frac{5}{6} = x$$

3, 6 का ल.ग. 6

$$x = \frac{-2 \times 2}{3 \times 2} + \frac{5 \times 1}{6 \times 1}$$

$$= \frac{-4}{6} + \frac{5}{6}$$

$$= \frac{-4 + 5}{6}$$

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

Let Required number $= x$

$$-\frac{2}{3} - x = -\frac{5}{6}$$

$$-\frac{2}{3} + \frac{5}{6} = x$$

L.C.M of 3, 6 = 6

$$x = \frac{-2 \times 2}{3 \times 2} + \frac{5 \times 1}{6 \times 1}$$

$$= \frac{-4}{6} + \frac{5}{6}$$

$$= \frac{-4 + 5}{6}$$

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

(7) दुई परिमेय गणितमाहरू का गुणकफल $-\frac{11}{2}$ 3, 1 गणितमा परिमेय गणितमा $\frac{33}{8}$ 3 5
 दुनो गणितमा यस्तो रहे।

The product of two rational numbers is $-\frac{11}{2}$. If one of them is $\frac{33}{8}$, find the other number.

अन कस कसरी दुनो गणितमा $= x$

$$\frac{33}{8} \times x = -\frac{11}{2}$$

$$x = \frac{-11}{2} \times \frac{8}{33}$$

$$= -\frac{4}{3}$$

$$\text{दुनो गणितमा} = -\frac{4}{3}$$

Let suppose 2nd number $= x$

$$\frac{33}{8} \times x = -\frac{11}{2}$$

$$x = \frac{-11}{2} \times \frac{8}{33}$$

$$= -\frac{4}{3}$$

$$\text{2nd number} = -\frac{4}{3}$$

(8) यस्तै प्रकारका प्रश्न. multiple choice questions

(i) $\frac{5}{4} + (\frac{25}{-4})$ का मान. The sum of $\frac{5}{4} + (\frac{25}{-4}) =$

$$\frac{5}{4} - \frac{25}{4} = \frac{5 - 25}{4} = \frac{-20}{4} = -5$$

(A) -5 (B) 5 (C) 4 (D) -4

$$(ii) \frac{17}{11} - \frac{6}{11} = \frac{17 - 6}{11} = \frac{11}{11} = 1$$

(A) 1 (B) -1 (C) 6 (D) 3

$$(iii) \frac{2}{-3} \times \frac{-8}{1} = \frac{16}{3} = 5 \frac{1}{3}$$

(A) 1 (B) -1 (C) 2 (D) -5

$$(iv) \frac{7}{12} \div \left(-\frac{7}{12}\right) = \frac{\cancel{7} \times \cancel{12}^1}{12 \times \cancel{7}_1} = \frac{1}{-1} = -1$$

$$(A) 1 \quad (B) -1 \quad (C) 7 \quad (D) -7$$

(v) 32 पर्यायों में से $(-4) \times [(-5) + (-3)]$ का विपरीत है 3
 which of the following is value of $(-4) \times [(-5) + (-3)]$

$$-4 \times [(-5) + (-3)] = -4 \times [-5-3]$$

$$= -4 \times [-8]$$

$$= +32 = 32$$

$$(A) -32 \quad (B) 120 \quad \checkmark (C) 32 \quad (D) -23$$