CLASS-7 **Chapter 9 Rational Numbers** SUB-MATHS

Ex. 9.1

Question 1. List five rational numbers between:

(i) -1 and 0

(ii) -2 and -1

(iii) $\frac{-4}{5}$ and $\frac{-2}{3}$

(iv) $\frac{-1}{2}$ and $-\frac{2}{3}$

Answer: (i) -1 and 0

Let us write -1 and 0 as rational numbers with denominator 6. and $0 = \frac{0}{6}$

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

$\therefore \frac{-6}{6} < \frac{-5}{6} < \frac{-4}{6} < \frac{-3}{6} < \frac{-2}{6} < \frac{-1}{6} < 0$

$\Rightarrow -1 < \frac{-5}{6} < \frac{-2}{3} < \frac{-1}{2} < \frac{-1}{3} < \frac{-1}{6} < 0$

Therefore, five rational numbers between -1 and 0 would be

$\frac{-5}{6}, \frac{-2}{3}, \frac{-1}{2}, \frac{-1}{3}, \frac{-1}{6}$

(ii) -2 and -1

Let us write -2 and -1 as rational numbers with denominator 6.

$\Rightarrow -2 = \frac{-12}{6} \qquad -1 = \frac{-6}{6}$

$\therefore \frac{-1}{3}, < \frac{-1}{6}, < 0, \quad < \frac{1}{6}, < \frac{1}{3} <$ ● $<$ ●

$\Rightarrow$ ▬ $<$ ● $<$ ● $<$ ● $<$ ● $<$ ● $<$ ▬

Therefore, five rational numbers between -2 and -1 would be

-11/6, -5/3, -3/2, -4/3, -7/6.

(iii) $\frac{-12}{6}$ and $\frac{-11}{6}$

Let us write $\frac{-10}{6}$ and $\frac{-9}{6}$ as rational numbers with the same denominators.

$\Rightarrow \frac{-7}{6}$ $\frac{-6}{6}$ and $\frac{-11}{6}$ $\frac{-5}{3}$

$\therefore \frac{-36}{45} < \frac{-35}{45} < \frac{-34}{45} < \frac{-33}{45} < \frac{-32}{45} < \frac{-31}{45} < \frac{-30}{45}$

$\Rightarrow \frac{-4}{5} < \frac{-7}{9} < \frac{-34}{45} < \frac{-11}{15} < \frac{-32}{45} < \frac{-31}{45} < \frac{-2}{3}$

Therefore, five rational numbers between $\frac{-3}{2}$ and $\frac{-4}{3}$ would be

$\frac{-7}{9}, \frac{-34}{45}, \frac{-11}{15}, \frac{-32}{45}, \frac{-31}{45}, \frac{-2}{3}$

(ii) $\frac{-7}{6}$ and $\frac{2}{3}$

Let us write -1 and $\frac{-4}{5}$ as rational numbers with the same denominators

$\Rightarrow \frac{-4}{5}$ $\frac{-2}{3}$. and $\frac{-4}{5} = \frac{-36}{45}$

$\therefore \frac{-3}{6} < \frac{-2}{6} < \frac{-1}{6} < 0 < \frac{1}{6} < \frac{2}{6} < \frac{3}{6} < \frac{4}{6}$

$\Rightarrow \frac{-1}{2} < \frac{-1}{3} < \frac{-1}{6} < 0 < \frac{1}{6} < \frac{1}{3} < \frac{1}{2} < \frac{2}{3}$

Therefore, five rational numbers between ▬ and $\frac{-2}{3}$ would be $\frac{-30}{45}$ $\frac{-4}{5}$ $\frac{-2}{3}$ $\frac{-1}{2}$ $\frac{-1}{2}$

Question 2. Write four more rational numbers in each of the following patterns: (i)  .....

(ii) $\frac{-3\times1}{5\times1}, \frac{-3\times2}{5\times2}, \frac{-3\times4}{5\times4}, \ldots\ldots\ldots$

(iii) $\frac{-1}{6}, \frac{2}{-12}, \frac{3}{-18}, \frac{4}{-24}, \ldots\ldots\ldots$

(iv) $\frac{-2}{3}, \frac{2}{-3}, \frac{4}{-6}, \frac{6}{-9}, \ldots\ldots\ldots$

Answer: (i) $\frac{-3}{5}, \frac{-6}{10}, \frac{-9}{15}, \frac{-12}{20}, \ldots\ldots\ldots$

$\Rightarrow$  $\frac{-3\times3}{5\times3}$,  $\ldots\ldots \frac{-3}{12}, \frac{-6}{20}, \frac{9}{30}, \frac{12}{40}$,

Therefore, the next four rational numbers of this pattern would be

$\frac{-3\times5}{5\times5}, \frac{-3\times6}{5\times6}, \frac{-3\times7}{5\times7}, \frac{-3\times8}{5\times8} = \frac{-15}{25}, \frac{-18}{30}, \frac{-21}{35}, \frac{-24}{40}$

(ii) $\frac{-1}{4}, \frac{-2}{8}, \frac{-3}{12}, \ldots\ldots\ldots$

$\Rightarrow \frac{-1\times1}{4\times1}, \frac{-1\times2}{4\times2}, \frac{-1\times3}{4\times3}, \ldots\ldots\ldots$

Therefore, the next four rational numbers of this pattern would be

$\frac{-1\times4}{4\times4}, \frac{-1\times5}{4\times5}, \frac{-1\times6}{4\times6}, \frac{-1\times7}{4\times7} = \frac{-4}{16}, \frac{-5}{20}, \frac{-6}{24}, \frac{-7}{28}$

(iii) $\frac{-1}{6}, \frac{2}{-12}, \frac{3}{-18}, \frac{4}{-24}, \ldots\ldots\ldots$

$\Rightarrow \frac{-1\times1}{6\times1}, \frac{1\times2}{-6\times2}, \frac{1\times3}{-6\times3}, \frac{1\times4}{-6\times4}, \ldots\ldots\ldots$

Therefore, the next four rational numbers of this pattern would be

$\frac{1\times5}{-6\times5}, \frac{1\times6}{-6\times6}, \frac{1\times7}{-6\times7}, \frac{1\times8}{-6\times8} = \frac{5}{-30}, \frac{6}{-36}, \frac{7}{-42}, \frac{8}{-48}$

(iv) $\frac{-2}{3}, \frac{2}{-3}, \frac{4}{-6}, \frac{6}{-9}, \ldots\ldots\ldots$

$\Rightarrow \frac{-2\times1}{3\times1}, \frac{2\times1}{-3\times1}, \frac{2\times2}{-3\times2}, \frac{2\times3}{-3\times3}, \ldots\ldots\ldots$

Therefore, the next four rational numbers of this pattern would be

$\frac{2\times4}{-3\times4}, \frac{2\times5}{-3\times5}, \frac{2\times6}{-3\times6}, \frac{2\times7}{-3\times7} = \frac{8}{-12}, \frac{10}{-15}, \frac{12}{-18}, \frac{14}{-21}$

Question 3. Give four rational numbers equivalent to:

(i) $\frac{-2}{7}$

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

(iii) $\frac{4}{9}$

Answer: (i) $\frac{-2}{7}$

$\frac{10}{-6}$, $\frac{20}{-12}, \frac{15}{-9}$ $\frac{25}{-15}$ $\frac{8}{18}$, $\frac{16}{36}, \frac{12}{27}$ $\frac{20}{45}$

Therefore, four equivalent rational numbers are $\frac{-4}{14}, \frac{-6}{21}, \frac{-8}{28}, \frac{-10}{35}$.

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

$= \frac{-2\times2}{7\times2} \frac{-2\times3}{7\times3} = \frac{-4}{14}, \frac{-6}{21},$ $= \frac{-2\times4}{7\times4} =$

$\frac{-8}{28}, \frac{-10}{35} \frac{-2\times5}{7\times5} \frac{10}{-6},$

Therefore, four equivalent rational numbers are

. (iii) $\frac{5\times2}{-3\times2}$

$\frac{4\times2}{9\times2} = \frac{8}{18}, \frac{4\times3}{9\times3} = \frac{12}{27}, \frac{4\times4}{9\times4} = \frac{16}{36}, \frac{4\times5}{9\times5} = \frac{20}{45}$

Therefore, four equivalent rational numbers are $\frac{15}{-9}, \frac{5\times4}{-3\times4} \frac{20}{-12}, \frac{5\times5}{-3\times5}$

$\frac{5\times3}{-3\times3}$

Question 4. Draw the number line and represent the following rational numbers on it:

(i) $\frac{25}{-15}$

(ii) $\frac{-5}{8}$

(iii) $\frac{-7}{4}$

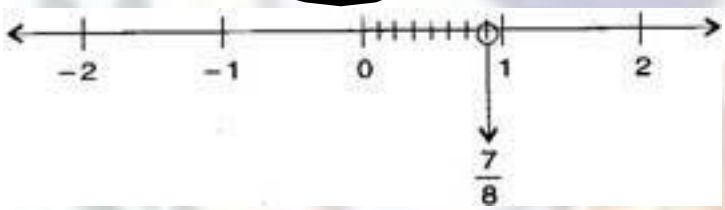
(iv) $\frac{7}{8}$

Answer: (i) $\frac{-5}{}$

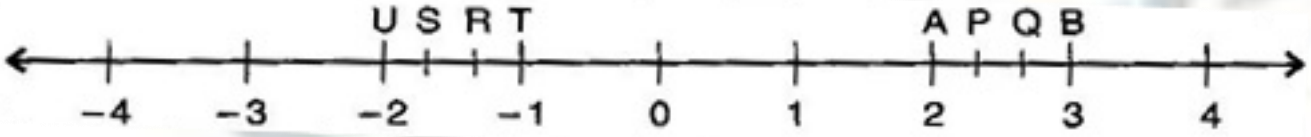
(ii) $\frac{}{3}$

(iii)

(iv)

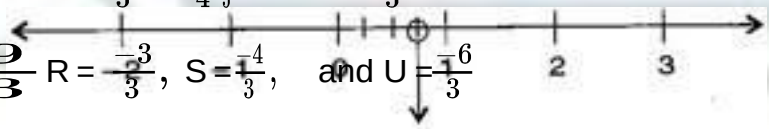


Question 5. The points P, Q, R, S, T, U, A and B on the number line are such that, TR = RS = SU and AP = PQ = QB. Name the rational numbers represented by P, Q, R and S.



Answer: Each part which is between the two numbers is divided into 3 parts.

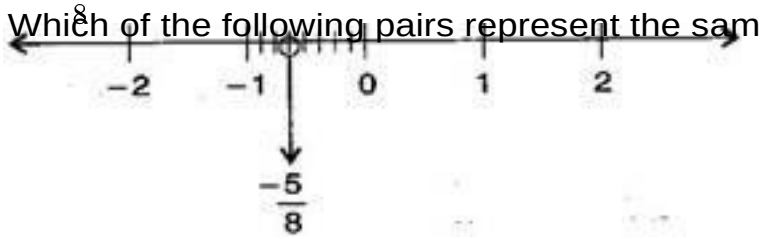
Therefore, A = P = $\frac{6}{3}$, Q $\frac{3}{4}$ $\frac{7}{3}$, and B = $\frac{8}{3}$



Similarly T = $\frac{9}{3}$ R = $\frac{-3}{3}$, S = $\frac{-4}{3}$, and U = $\frac{-6}{3}$

Thus, the rational numbers represented P, Q, R and S are $\frac{-5}{3}$, $\frac{8}{3}$ and $\frac{-4}{3}$ respectively.

Question 6. Which of the following pairs represent the same rational numbers?



$\frac{-5}{8}$

$\frac{7}{4}$

−7

(i) $\frac{-7}{21}$ and $\frac{3}{9}$

(ii) $\frac{-16}{20}$ and $\frac{20}{-25}$

(iii) $\frac{-2}{-3}$ and $\frac{2}{3}$

(iv) $\frac{-3}{5}$ and $\frac{-12}{20}$

(v) $\frac{8}{-5}$ and $\frac{-24}{15}$

(vi) $\frac{1}{3}$ and $\frac{-1}{9}$

(vii) $\frac{-5}{-9}$ and $\frac{5}{-9}$

Answer: (i) $\frac{-7}{21}$ and $\frac{3}{9}$

$\Rightarrow \frac{-7}{21} = \frac{-1}{3}$ and $\frac{3}{9} = \frac{1}{3}$ [Converting into lowest term]

$\because \frac{\mathbf{2}}{\mathbf{3}} \frac{\mathbf{2}}{\mathbf{3}}$

$\therefore \frac{-7}{21} \neq \frac{3}{9}$

(ii) $\frac{-\mathbf{1}}{\mathbf{3}}$ and $\frac{20}{-25}$

$\Rightarrow \neq \frac{1}{3} = \frac{-16}{20}$ and $\frac{-16}{20} = \frac{-4}{5} = \frac{-4}{5}$

[Converting into lowest term]

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

$\therefore \frac{-16}{20} = \frac{20}{-25}$

(iii) $\frac{-4}{5}$ and $\frac{2}{3}$

$\Rightarrow \frac{-2}{-3} = \frac{-4}{5}$ and $\frac{-2}{-3} = \frac{2}{3}$ [Converting into lowest term]

$\because \frac{2}{3} = \frac{2}{3}$

$\therefore \frac{-2}{-3} = \frac{2}{3}$

(iv) $\frac{-3}{5}$ and $\frac{-12}{20}$

$\Rightarrow \frac{-3}{5} = \frac{-3}{5}$ and $\frac{-12}{20} = \frac{-3}{5}$ [Converting into lowest term]

$\because \frac{-3}{5} = \frac{-3}{5}$

$\therefore \frac{-3}{5} = \frac{-12}{20}$

(v) $\frac{8}{-5}$ and $\frac{-24}{15}$

$\Rightarrow \frac{8}{-5} = \frac{-8}{5}$ and $\frac{-24}{15} = \frac{-8}{5}$ [Converting into lowest term]

$\because \frac{-8}{5} = \frac{-8}{5}$

$\therefore \frac{8}{-5} = \frac{-24}{15}$

(vi) $\frac{1}{3}$ and $\frac{-1}{9}$

$\Rightarrow \frac{1}{3} = \frac{1}{3}$ and $\frac{-1}{9} = \frac{-1}{9}$ [Converting into lowest term]

$\because \frac{-8}{6} \frac{25}{45}$

$\therefore \frac{1}{3} \neq \frac{-1}{9}$

(vii) $\frac{\mathbf{1}}{\mathbf{3}}$ and $\frac{5}{-9}$

$\Rightarrow \frac{-5}{-9} = \neq \frac{-1}{9}$ and $\frac{-5}{-9} = \frac{5}{9}$ [Converting into lowest term]

$\because \frac{5}{9} \neq \frac{5}{-9}$

$\therefore \frac{-5}{-9} \neq \frac{5}{-9}$

Question 7. Rewrite the following rational numbers in the simplest form:

(i) $\frac{5}{-9}$

(ii) $\frac{\mathbf{5}}{\mathbf{9}}$

(iii) $\frac{-44}{72}$

(iv) $\frac{-8}{10}$

Answer: (i) $\frac{-8}{6} = \frac{-8\div 2}{6\div 2} = \frac{-4}{3}$ [H.C.F. of 8 and 6 is 2]

(ii) $\frac{25}{45} = \frac{25\div 5}{45\div 5} = \frac{5}{9}$

[H.C.F. of 25 and 45 is5]

(iii) $\frac{-44}{72} = \frac{-44\div 4}{72\div 4} = \frac{-11}{18}$ [H.C.F. of 44 and 72 is 4]

(iv) $\frac{-8}{10} = \frac{-8\div 2}{10\div 2} = \frac{-4}{5}$ [H.C.F. of 8 and 10 is 2]

Question 8. Fill in the boxes with the correct symbol out of <, > and =:

(i) $\frac{-5}{7} \square \frac{2}{3}$

(ii) $\frac{-4}{5} \square \frac{-5}{7}$

(iii) $\frac{-7}{8} \square \frac{14}{-16}$

(iv) $\frac{-8}{5} \square \frac{-7}{4}$

(v) $\frac{1}{-3} \square \frac{-1}{4}$

(vi) $\frac{5}{-11} \square \frac{-5}{11}$

(vii) $0 \square \frac{-7}{6}$

Answer: (i) $\frac{-5}{7} \boxed{<} \frac{2}{3}$ Since, the positive number if greater than negative number.

(ii) $\frac{-4\times 7}{5\times 7} \square \frac{-5\times 5}{7\times 5} \Rightarrow \frac{-28}{35} \boxed{<} \frac{-25}{35} \Rightarrow \frac{-4}{5} \boxed{<} \frac{-5}{7}$

(iii) $\frac{-7\times 2}{8\times 2} \square \frac{14\times(-1)}{-16\times(-1)} \Rightarrow \frac{-14}{16} \boxed{=} \frac{-14}{16} \Rightarrow \frac{-7}{8} \boxed{=} \frac{14}{-16}$

(iv) $\frac{-8\times 4}{5\times 4} \square \frac{-7\times 5}{4\times 5} \Rightarrow \frac{-32}{20} \boxed{>} \frac{-35}{20} \Rightarrow \frac{-8}{5} \boxed{>} \frac{-7}{4}$

(v) $\frac{1}{-3} \square \frac{-1}{4} \Rightarrow \frac{1}{-3} \boxed{<} \frac{-1}{4}$

(vi) $\frac{5}{-11} \square \frac{-5}{11} \Rightarrow \frac{5}{-11} \boxed{=} \frac{-5}{11}$

(vii) $0 \boxed{>} \frac{-7}{6}$ Since, 0 is greater than every negative number.

Question 9. Which is greater in each of the following:

(i) $\frac{2}{3}, \frac{5}{2}$

(ii) $\frac{-5}{6}, \frac{-4}{3}$

(iii) $\frac{-3}{4}, \frac{2}{-3}$

(iv) $\frac{-1}{4}, \frac{1}{4}$

(v) $-3\frac{2}{7}, -3\frac{4}{5}$

Answer: (i) $\frac{2\times2}{3\times2} = \frac{4}{6}$ and $\frac{5\times3}{2\times3} = \frac{15}{6}$

Since $\frac{4}{6} \boxed{<} \frac{15}{6}$

Therefore $\frac{2}{3} \boxed{<} \frac{5}{2}$

$\frac{-5\times1}{6\times1} = \frac{-5}{6}$ and $\frac{-4\times2}{3\times2} = \frac{-8}{6}$

Since $\frac{-5}{6} \boxed{>} \frac{-8}{6}$ Therefore $\frac{-5}{6} \boxed{>} \frac{-4}{3}$

(ii) $\frac{-3\times3}{4\times3} = \frac{-9}{12}$ and $\frac{2\times(-4)}{-3\times(-4)} = \frac{-8}{12}$

Since $\frac{-9}{12} \boxed{<} \frac{-8}{12}$

Therefore $\frac{-3}{4} \boxed{<} \frac{2}{-3}$

(iii) $\frac{-1}{4} \boxed{<} \frac{1}{4}$ Since positive number is always greater than negative number.

(iv) $-3\frac{2}{7} = \frac{-23}{7} = \frac{-23\times5}{7\times5} = \frac{-115}{35}$ and $-3\frac{4}{5} = \frac{-19}{5} = \frac{-19\times7}{5\times7} = \frac{-133}{35}$

Since $\frac{-115}{35} \boxed{>} \frac{-133}{35}$

Therefore $-3\frac{2}{7} \boxed{>} 3\frac{4}{5}$

Question 10. Write the following rational numbers in ascending order:

(i) $\frac{-3}{5}, \frac{-2}{5}, \frac{-1}{5}$

(ii) $\frac{1}{3}, \frac{-2}{9}, \frac{-4}{3}$

(iii) $\frac{-3}{7}, \frac{-3}{2}, \frac{-3}{4}$

Answer: (i) $\frac{-3}{5}, \frac{-2}{5}, \frac{-1}{5} \Rightarrow \frac{-3}{5} < \frac{-2}{5} < \frac{-1}{5}$

(ii) $\frac{1}{3}, \frac{-2}{9}, \frac{-4}{3} \Rightarrow \frac{3}{9}, \frac{-2}{9}, \frac{-12}{9}$ [Converting into same denominator]

Now $\frac{-12}{9} < \frac{-2}{9} < \frac{3}{9} \Rightarrow \frac{-4}{3} < \frac{-2}{9} < \frac{1}{3}$

(iii) $\frac{-3}{7}, \frac{-3}{2}, \frac{-3}{4}$

$\Rightarrow \frac{5}{3} < \frac{-9}{10} < \frac{-3}{-11}$

Ex. 9.2

Question 1. Find the sum:

(i) $\frac{-3}{2} + \left(\frac{-11}{4}\right)$

(ii) $\frac{-3}{4} + \frac{3}{5}$

(iii) $\frac{-3}{7} + \frac{22}{15}$

(iv) $\frac{5}{4} + \frac{5}{9}$

(v) $\frac{-8}{19} + \frac{(-2)}{57}$

(vi) $\frac{-2}{3} + 0$

(vii) $-2\frac{1}{3} + 4\frac{3}{5}$

Answer: (i) $\frac{5}{4} + \left(\frac{-11}{4}\right) = \frac{5-11}{4} = \frac{-6}{4} = \frac{-3}{2}$

(ii) $\frac{5}{3} + \frac{3}{5} = \frac{5\times5}{3\times5} + \frac{3\times3}{5\times3} = \frac{25}{15} + \frac{9}{15}$

[L.C.M. of 3 and 5 is 15]

$= \frac{25+9}{15} = \frac{34}{15} = 2\frac{4}{15}$

(iii) $\frac{-9}{10} + \frac{22}{15} = \frac{-9\times3}{10\times3} + \frac{22\times2}{15\times2} = \frac{-27}{30} + \frac{44}{30}$

[L.C.M. of 10 and 15 is 30]

$= \frac{-27+44}{30} = \frac{17}{30}$

(iv) $\frac{-3}{-11} + \frac{5}{9} = \frac{-3\times9}{-11\times9} + \frac{5\times11}{9\times11} = \frac{27}{99} + \frac{55}{99}$ [L.C.M. of 11 and 9 is 99]

$= \frac{27+55}{99} = \frac{82}{99}$

(v) $\frac{-8}{19} + \frac{(-2)}{57} = \frac{-8\times3}{19\times3} + \frac{(-2)\times1}{57\times1} = \frac{-24}{57} + \frac{(-2)}{57}$ [L.C.M. of 19 and 57 is 57]

$= \frac{-24-2}{57} = \frac{-26}{57}$

(vi) $\frac{-2}{3} + 0 = \frac{-2}{3}$

(vii) $-2\frac{1}{3} + 4\frac{3}{5} = \frac{-7}{3} + \frac{23}{5} = \frac{-7\times5}{3\times5} + \frac{23\times3}{5\times3} = \frac{-35}{15} + \frac{69}{15}$ [L.C.M. of 3 and 5 is 15]

$= \frac{-35+69}{15} = \frac{34}{15} = 2\frac{4}{15}$

Question 2. Find:

(i) $\frac{7}{24} - \frac{17}{36}$

(ii) $\frac{5}{63} - \left(\frac{-6}{21}\right)$

(iii) $\frac{-6}{13} - \left(\frac{-7}{15}\right)$

(iv) $\frac{-3}{8} - \frac{7}{11}$

(v) $-2\frac{1}{9} - 6$

Answer: (i) $\frac{7}{24} - \frac{17}{36} = \frac{7\times3}{24\times3} - \frac{17\times2}{36\times2} = \frac{21}{72} - \frac{34}{72}$

[L.C.M. of 24 and 36 is 72]

$= \frac{21-34}{72} = \frac{-13}{72}$

(ii) $\frac{5}{63} - \left(\frac{-6}{21}\right) = \frac{5\times1}{63\times1} - \left(\frac{-6\times3}{21\times3}\right) = \frac{5}{63} - \frac{-18}{63}$ [L.C.M. of 63 and 21 is 63]

$= \frac{5-(-18)}{63} = \frac{5+18}{63} = \frac{23}{63}$

(iii) $\frac{-6}{13} - \left(\frac{-7}{15}\right) = \frac{-6\times15}{13\times15} - \left(\frac{-7\times13}{15\times13}\right) = \frac{-90}{195} - \left(\frac{-91}{195}\right)$ [L.C.M. of 13 and 15 is 195]

$= \frac{-90-(-91)}{195} = \frac{-90+91}{195} = \frac{1}{195}$

(iv) $\frac{-3}{8} - \frac{7}{11} = \frac{-3\times11}{8\times11} - \frac{7\times8}{11\times8} = \frac{-33}{88} - \frac{56}{88}$

[L.C.M. of 8 and 11 is 88]

$= \frac{-33-56}{88} = \frac{-89}{88} = -1\frac{1}{88}$

(v) $-2\frac{1}{9} - 6 = \frac{-19}{9} - \frac{6}{1} = \frac{-19\times1}{9\times1} - \frac{6\times9}{1\times9}$ [L.C.M. of 9 and 1 is 9]

$= \frac{-19}{9} - \frac{54}{9} = \frac{-19-54}{9} = \frac{-73}{9} = -8\frac{1}{9}$

Question 3. Find the product:

(i) $\frac{9}{2} \times \left(\frac{-7}{4}\right)$

(ii) $\frac{3}{10} \times (-9)$

(iii) $\frac{-6}{5} \times \frac{9}{11}$

(iv) $\frac{3}{7} \times \left(\frac{-2}{5}\right)$

(v) $\frac{3}{11} \times \frac{2}{5}$

(vi) $\frac{3}{-5} \times \frac{5}{3}$

Answer: (i) $\frac{9}{2} \times \left(\frac{-7}{4}\right) = \frac{9\times(-7)}{2\times4} = \frac{-63}{8} = -7\frac{7}{8}$

(ii) $\frac{3}{10} \times (-9) = \frac{3\times(-9)}{10} = \frac{-27}{10} = -2\frac{7}{10}$

(iii) $\frac{-6}{5} \times \frac{9}{11} = \frac{(-6)\times9}{5\times11} = \frac{-54}{55}$

(iv) $\frac{3}{7} \times \left(\frac{-2}{5}\right) = \frac{3\times(-2)}{7\times5} = \frac{-6}{35}$

(v) $\frac{3}{11} \times \frac{2}{5} = \frac{3\times2}{11\times5} = \frac{6}{55}$

(vi) $\frac{3}{-5} \times \left(\frac{-5}{3}\right) = \frac{3\times(-5)}{-5\times3} = 1$

Question 4. Find the value of:

(i) $(-4) \div \frac{2}{3}$

(ii) $\frac{-3}{5} \div 2$

(iii) $\frac{-4}{5} \div (-3)$

(iv) $\frac{-1}{8} \div \frac{3}{4}$

(v) $\frac{-2}{13} \div \frac{1}{7}$

(vi) $\frac{-7}{12} \div \left(\frac{2}{13}\right)$

(vii) $\frac{3}{13} \div \left(\frac{-4}{65}\right)$

Answer: (i) $(-4) \div \frac{2}{3} = (-4) \times \frac{3}{2} = (-2) \times 3 = -6$

(ii) $\frac{-3}{5} \div 2 = \frac{-3}{5} \times \frac{1}{2} = \frac{(-3)\times 1}{5\times 2} = \frac{-3}{10}$

(iii) $\frac{-4}{5} \div (-3) = \frac{(-4)}{5} \times \frac{1}{(-3)} = \frac{(-4)\times 1}{5\times(-3)} = \frac{4}{15}$

(iv) $\frac{-1}{8} \div \frac{3}{4} = \frac{-1}{8} \times \frac{4}{3} = \frac{(-1)\times 1}{2\times 3} = \frac{-1}{6}$

(v) $\frac{-2}{13} \div \frac{1}{7} = \frac{-2}{13} \times \frac{7}{1} = \frac{(-2)\times 7}{13\times 1} = \frac{-14}{13} = -1\frac{1}{13}$

(vi) $\frac{-7}{12} \div \left(\frac{-2}{13}\right) = \frac{-7}{12} \times \frac{13}{(-2)} = \frac{(-7)\times 13}{12\times(-2)} = \frac{-91}{24} = 3\frac{19}{24}$

(vii) $\frac{3}{13} \div \left(\frac{-4}{65}\right) = \frac{3}{13} \times \frac{65}{(-4)} = \frac{3\times(-5)}{1\times 4} = \frac{-15}{4} = -3\frac{3}{4}$