

NCERT Solutions for Class 7 Maths Chapter 9

Rational Numbers Class 7

Chapter 9 Rational Numbers Exercise 9.1, 9.2 Solutions

Exercise 9.1 : Solutions of Questions on Page Number : 182

Q1 :

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

$$\frac{-1}{10}, \frac{-1}{20}, \frac{-1}{30}, \frac{-1}{40}, \frac{-1}{50}$$

(ii) - 2 and - 1

$$-2 = \frac{-12}{6} \text{ and } -1 = \frac{-6}{6}$$

Five rational numbers are

$$\frac{-11}{6}, \frac{-10}{6}, \frac{-9}{6}, \frac{-8}{6}, \frac{-7}{6}$$

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

$$\frac{-4}{5} = \frac{-4 \times 9}{5 \times 9} = \frac{-36}{45} \text{ and } \frac{-2}{3} = \frac{-2 \times 15}{3 \times 15} = \frac{-30}{45}$$

Five rational numbers are

$$\frac{-35}{45}, \frac{-34}{45}, \frac{-33}{45}, \frac{-32}{45}, \frac{-31}{45}$$

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

$$\frac{1}{2} = \frac{1 \times 18}{2 \times 18} = \frac{18}{36} \text{ and } \frac{2}{3} = \frac{2 \times 12}{3 \times 12} = \frac{24}{36}$$

Five rational numbers are

$$\frac{19}{36}, \frac{20}{36}, \frac{21}{36}, \frac{22}{36}, \frac{23}{36}$$

Q2 :

Write four more rational numbers in each of the following patterns:

(i) $\frac{-3}{5}, \frac{-6}{10}, \frac{-9}{15}, \frac{-12}{20}, \dots$ (ii) $\frac{-1}{4}, \frac{-2}{8}, \frac{-3}{12}, \dots$

(iii) $\frac{-1}{6}, \frac{2}{-12}, \frac{3}{-18}, \frac{4}{-24}, \dots$ (iv) $\frac{-2}{3}, \frac{2}{-3}, \frac{4}{-6}, \frac{6}{-9}, \dots$

Answer :

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

$\frac{-3}{5}, \frac{-3 \times 2}{5 \times 2}, \frac{-3 \times 3}{5 \times 3}, \frac{-3 \times 4}{5 \times 4}, \dots$

It can be observed that the numerator is a multiple of 3 while the denominator is a multiple of 5 and as we increase them further, these multiples are increasing. Therefore, the next four rational numbers in this pattern are

$\frac{-3 \times 5}{5 \times 5}, \frac{-3 \times 6}{5 \times 6}, \frac{-3 \times 7}{5 \times 7}, \frac{-3 \times 8}{5 \times 8}, \dots$

$\frac{-15}{25}, \frac{-18}{30}, \frac{-21}{35}, \frac{-24}{40}, \dots$

(ii)

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

$\frac{-1}{4}, \frac{-1 \times 2}{4 \times 2}, \frac{-1 \times 3}{4 \times 3}, \dots$

The next four rational numbers in this pattern are

$\frac{-1 \times 4}{4 \times 4}, \frac{-1 \times 5}{4 \times 5}, \frac{-1 \times 6}{4 \times 6}, \frac{-1 \times 7}{4 \times 7}, \dots$

$\frac{-4}{16}, \frac{-5}{20}, \frac{-6}{24}, \frac{-7}{28}, \dots$

(iii)

$\frac{-1}{6}, \frac{2}{-12}, \frac{3}{-18}, \frac{4}{-24}, \dots$

$\frac{-1}{6}, \frac{1 \times 2}{-6 \times 2}, \frac{1 \times 3}{-6 \times 3}, \frac{1 \times 4}{-6 \times 4}, \dots$

The next four rational numbers in this pattern are

$\frac{1 \times 5}{-6 \times 5}, \frac{1 \times 6}{-6 \times 6}, \frac{1 \times 7}{-6 \times 7}, \frac{1 \times 8}{-6 \times 8}, \dots$

$\frac{5}{-30}, \frac{6}{-36}, \frac{7}{-42}, \frac{8}{-48}, \dots$

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

The next four rational numbers in this pattern are

$$\frac{2 \times 4}{-3 \times 4}, \frac{2 \times 5}{-3 \times 5}, \frac{2 \times 6}{-3 \times 6}, \frac{2 \times 7}{-3 \times 7} \dots$$
$$\frac{8}{-12}, \frac{10}{-15}, \frac{12}{-18}, \frac{14}{-21} \dots$$

Q3 :

Give four rational numbers equivalent to:

$$(i) \frac{-2}{7} \quad (ii) \frac{5}{-3} \quad (iii) \frac{4}{9}$$

Answer :

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

Four rational numbers are

$$\frac{-2 \times 2}{7 \times 2}, \frac{-2 \times 3}{7 \times 3}, \frac{-2 \times 4}{7 \times 4}, \frac{-2 \times 5}{7 \times 5}$$
$$\frac{-4}{14}, \frac{-6}{21}, \frac{-8}{28}, \frac{-10}{35}$$

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

Four rational numbers are

$$\frac{5 \times 2}{-3 \times 2}, \frac{5 \times 3}{-3 \times 3}, \frac{5 \times 4}{-3 \times 4}, \frac{5 \times 5}{-3 \times 5}$$
$$\frac{10}{-6}, \frac{15}{-9}, \frac{20}{-12}, \frac{25}{-15}$$

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

Four rational numbers are

$$\frac{4 \times 2}{9 \times 2}, \frac{4 \times 3}{9 \times 3}, \frac{4 \times 4}{9 \times 4}, \frac{4 \times 5}{9 \times 5}$$
$$\frac{8}{18}, \frac{12}{27}, \frac{16}{36}, \frac{20}{45}$$

Q4 :

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

(i) $\frac{3}{4}$ (ii) $\frac{-5}{8}$

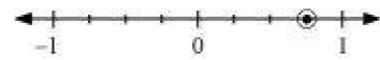
(iii) $\frac{-7}{4}$ (iv) $\frac{7}{8}$

Answer :

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

This fraction represents 3 parts out of 4 equal parts. Therefore, each space between two integers on number line must be divided into 4 equal parts.

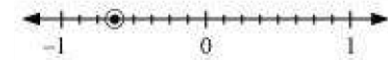
$\frac{3}{4}$ can be represented as



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

This fraction represents 5 parts out of 8 equal parts. Negative sign represents that it is on the negative side of number line. Therefore, each space between two integers on number line must be divided into 8 equal parts.

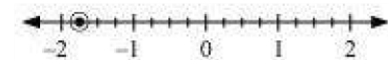
$\frac{-5}{8}$ can be represented as



(iii) $\frac{-7}{4} = -1\frac{3}{4}$

This fraction represents 1 full part and 3 parts out of 4 equal parts. Negative sign represents that it is on the negative side of number line. Therefore, each space between two integers on number line must be divided into 4 equal parts.

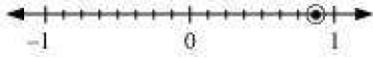
$\frac{-7}{4}$ can be represented as



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

This fraction represents 7 parts out of 8 equal parts. Therefore, each space between two integers on number line must be divided into 8 equal parts.

$\frac{7}{8}$ can be represented as



Q5 :

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 :

Distance between U and T = 1 unit

It is divided into 3 equal parts.

$$TR = RS = SU = \frac{1}{3}$$

$$R = -1 - \frac{1}{3} = -\frac{3}{3} - \frac{1}{3} = -\frac{4}{3}$$

$$S = -1 - \frac{2}{3} = -\frac{3}{3} - \frac{2}{3} = -\frac{5}{3}$$

Similarly,

AB = 1 unit

It is divided into 3 equal parts.

$$P = 2 + \frac{1}{3} = \frac{6}{3} + \frac{1}{3} = \frac{7}{3}$$

$$Q = 2 + \frac{2}{3} = \frac{6}{3} + \frac{2}{3} = \frac{8}{3}$$

Q6 :

Which of the following pairs represent the same rational number?

(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 $\frac{3}{9}$

$$\frac{-7}{21} = \frac{-1}{3}$$

$$\frac{3}{9} = \frac{1}{3}$$

As $\frac{-1}{3} \neq \frac{1}{3}$

, therefore, it does not represent same rational numbers.

Therefore, it represents same rational numbers.

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

$$\frac{-16}{20} = \frac{-4}{5}$$

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

Therefore, it represents same rational numbers.

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

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

Therefore, it represents same rational numbers.

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

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

Therefore, it represents same rational numbers.

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

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

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

, therefore, it does not represent same rational numbers.

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

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

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

$$\frac{-5}{-9} = \frac{5}{9}$$

As $\frac{5}{9} \neq \frac{-5}{9}$, therefore, it does not represent same rational numbers.

Q7 :

Rewrite the following rational numbers in the simplest form:

(i) $\frac{-8}{6}$ (ii) $\frac{25}{45}$

(iii) $\frac{-44}{72}$ (iv) $\frac{-8}{10}$

Answer :

(i) $\frac{-8}{6} = \frac{-4 \times 2}{3 \times 2} = \frac{-4}{3}$

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

(iii) $\frac{-44}{72} = \frac{-11 \times 4}{18 \times 4} = \frac{-11}{18}$

(iv) $\frac{-8}{10} = \frac{-4 \times 2}{5 \times 2} = \frac{-4}{5}$

Q8 :

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)

$$\frac{-5}{7} = \frac{-5 \times 3}{7 \times 3} = \frac{-15}{21}$$

$$\frac{2}{3} = \frac{2 \times 7}{3 \times 7} = \frac{14}{21}$$

As $-15 < 14$,

Therefore, $\frac{-5}{7} < \frac{2}{3}$

(ii)

$$\frac{-4}{5} = \frac{-4 \times 7}{5 \times 7} = \frac{-28}{35}$$

$$\frac{-5}{7} = \frac{-5 \times 5}{7 \times 5} = \frac{-25}{35}$$

As $-28 < -25$

Therefore, $\frac{-4}{5} < \frac{-5}{7}$

(iii) Here, $\frac{14}{-16} = \frac{7 \times 2}{-8 \times 2} = \frac{7}{-8} = \frac{-7}{8}$

Therefore, $\frac{-7}{8} \equiv \frac{14}{-16}$

(iv)

$$\frac{-8}{5} = \frac{-8 \times 4}{5 \times 4} = \frac{-32}{20}$$

$$\frac{-7}{4} = \frac{-7 \times 5}{4 \times 5} = \frac{-35}{20}$$

As $-32 > -35$,

Therefore, $\frac{-8}{5} > \frac{-7}{4}$

(v)

$$\frac{-1}{3} = \frac{-1 \times 4}{3 \times 4} = \frac{-4}{12}$$

$$\frac{-1}{4} = \frac{-1 \times 3}{4 \times 3} = \frac{-3}{12}$$

As $-4 < -3$,

Therefore, $\frac{-1}{3} < \frac{-1}{4}$

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

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

Q9 :

Which is greater in each of the following?

$$(i) \frac{2}{3}, \frac{5}{2} \quad (ii) \frac{-5}{6}, \frac{-4}{3} \quad (iii) \frac{-3}{4}, \frac{2}{-3}$$

$$(iv) \frac{-1}{4}, \frac{1}{4} \quad (v) -3\frac{2}{7}, -3\frac{4}{5}$$

Answer :

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

By converting these into like fractions,

$$\frac{2}{3} = \frac{2 \times 2}{3 \times 2} = \frac{4}{6}$$
$$\frac{5}{2} = \frac{5 \times 3}{2 \times 3} = \frac{15}{6}$$

As $15 > 4$, therefore, $\frac{5}{2}$ is greater.

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

$$\frac{-4}{3} = \frac{-4 \times 2}{3 \times 2} = \frac{-8}{6}$$

As $-5 > -8$, therefore, $\frac{-5}{6}$ is greater.

(iii)

$$\frac{-3}{4}, \frac{2}{-3}$$

$$\text{Or, } \frac{-3}{4}, \frac{-2}{3}$$

By converting these into like fractions,

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

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

As $-8 > -9$, therefore, $\frac{-2}{3}$ is greater.

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

$$\frac{1}{4} > \frac{-1}{4}$$

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

$$\frac{-23}{7}, \frac{-19}{5}$$

By converting these into like fractions,

$$\frac{-23}{7} = \frac{-23 \times 5}{7 \times 5} = \frac{-115}{35}$$

$$\frac{-19}{5} = \frac{-19 \times 7}{5 \times 7} = \frac{-133}{35}$$

As $-115 > -133$, therefore, $-3\frac{2}{7}$ is greater.

Q10 :

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

As $-3 < -2 < -1$,

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

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

By converting these into like fractions,

$$\frac{-1 \times 3}{3 \times 3}, \frac{-2}{9}, \frac{-4 \times 3}{3 \times 3}$$
$$\frac{-3}{9}, \frac{-2}{9}, \frac{-12}{9}$$

As $-12 < -3 < -2$,

$$\therefore \frac{-4}{3} < \frac{-1}{3} < \frac{-2}{9}$$

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

By converting these into like fractions,

$$\frac{-3 \times 4}{7 \times 4}, \frac{-3 \times 14}{2 \times 14}, \frac{-3 \times 7}{4 \times 7}$$
$$\frac{-12}{28}, \frac{-42}{28}, \frac{-21}{28}$$

As $-42 < -21 < -12$,

$$\therefore \frac{-3}{2} < \frac{-3}{4} < \frac{-3}{7}$$

Exercise 9.2 : Solutions of Questions on Page Number : 190

Q1 :

Find the sum:

(i) $\frac{4}{5} + \left(\frac{-11}{4}\right)$ (ii) $\frac{5}{3} + \frac{3}{5}$ (iii) $\frac{-9}{10} + \frac{22}{15}$

(iv) $\frac{-3}{-11} + \frac{5}{9}$ (v) $\frac{-8}{19} + \frac{(-2)}{57}$ (vi) $\frac{-2}{3} + 0$

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

Answer :

(i) $45 + (-11) = 45 - 11 = 34$

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

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

$$\frac{5}{3} + \frac{3}{5} = \frac{5 \times 5}{3 \times 5} + \frac{3 \times 3}{5 \times 3} = \frac{25}{15} + \frac{9}{15} = \frac{25+9}{15} = \frac{34}{15}$$

$$(iii) \frac{-9}{10} + \frac{22}{15}$$

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

$$\frac{-9}{10} + \frac{22}{15} = \frac{-9 \times 3}{10 \times 3} + \frac{22 \times 2}{15 \times 2} = \frac{-27}{30} + \frac{44}{30} = \frac{-27 + 44}{30} = \frac{17}{30}$$

$$(iv) \frac{-3}{-11} + \frac{5}{9} = \frac{3}{11} + \frac{5}{9}$$

L.C.M of 11 and 9 is 99.

$$\frac{3}{11} + \frac{5}{9} = \frac{3 \times 9}{11 \times 9} + \frac{5 \times 11}{9 \times 11} = \frac{27}{99} + \frac{55}{99} = \frac{27 + 55}{99} = \frac{82}{99}$$

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

L.C.M of 19 and 57 is 57.

$$-\frac{8}{19} - \frac{2}{57} = -\frac{8 \times 3}{19 \times 3} - \frac{2}{57} = -\frac{24}{57} - \frac{2}{57} = \frac{-24 - 2}{57} = \frac{-26}{57}$$

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

$$(vii) -2\frac{1}{3} + 4\frac{3}{5} = \frac{-7}{3} + \frac{23}{5}$$

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

$$\frac{-7}{3} + \frac{23}{5} = \frac{-7 \times 5}{3 \times 5} + \frac{23 \times 3}{5 \times 3} = \frac{-35}{15} + \frac{69}{15} = \frac{-35 + 69}{15} = \frac{34}{15}$$

Q2 :

Find

$$(i) \frac{7}{24} - \frac{17}{36} \quad (ii) \frac{5}{63} - \left(\frac{-6}{21}\right) \quad (iii) \frac{-6}{13} - \left(\frac{-7}{15}\right)$$

$$(iv) \frac{-3}{8} - \frac{7}{11} \quad (v) -2\frac{1}{9} - 6$$

Answer :

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

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

$$\frac{7}{24} - \frac{17}{36} = \frac{7 \times 3}{24 \times 3} - \frac{17 \times 2}{36 \times 2} = \frac{21}{72} - \frac{34}{72} = \frac{21-34}{72} = \frac{-13}{72}$$

$$(ii) \frac{5}{63} - \left(\frac{-6}{21} \right) = \frac{5}{63} + \frac{2}{7}$$

L.C.M of 63 and 7 is 63.

$$\frac{5}{63} + \frac{2}{7} = \frac{5}{63} + \frac{2 \times 9}{7 \times 9} = \frac{5}{63} + \frac{18}{63} = \frac{5+18}{63} = \frac{23}{63}$$

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

L.C.M of 13 and 15 is 195.

$$\frac{-6}{13} + \frac{7}{15} = \frac{-6 \times 15}{13 \times 15} + \frac{7 \times 13}{15 \times 13} = \frac{-90}{195} + \frac{91}{195} = \frac{-90+91}{195} = \frac{1}{195}$$

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

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

$$\frac{-3}{8} - \frac{7}{11} = \frac{-3 \times 11}{8 \times 11} - \frac{7 \times 8}{11 \times 8} = \frac{-33}{88} - \frac{56}{88} = \frac{-33-56}{88} = \frac{-89}{88}$$

$$(v) -2\frac{1}{9} - 6 = -\frac{19}{9} - \frac{6}{1}$$

L.C.M of 9 and 1 is 9.

$$-\frac{19}{9} - \frac{6}{1} = -\frac{19}{9} - \frac{6 \times 9}{1 \times 9} = -\frac{19}{9} - \frac{54}{9} = \frac{-19-54}{9} = \frac{-73}{9}$$

Q3 :

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

(ii) $\frac{3}{10} \times (-9) = \frac{3}{10} \times \frac{(-9)}{1} = \frac{3 \times (-9)}{10 \times 1} = \frac{-27}{10}$

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

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

$\frac{3}{11} \times \frac{2}{5} = \frac{3 \times 2}{11 \times 5} = \frac{6}{55}$

(v)

(vi) $\frac{3}{-5} \times \frac{-5}{3} = \frac{3 \times (-5)}{(-5) \times 3} = \frac{-15}{-15} = 1$

Q4 :

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 :

$$(i) \quad -4 \div \frac{2}{3} = -4 \times \frac{3}{2} = \frac{-12}{2} = -6$$

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

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

$$(iv) \quad \frac{-1}{8} \div \frac{3}{4} = \frac{-1}{8} \times \frac{4}{3} = \frac{-1 \times 4}{8 \times 3} = \frac{-4}{24} = -\frac{1}{6}$$

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

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

$$(vii) \quad \frac{3}{13} \div \left(\frac{-4}{65}\right) = \frac{3}{13} \times \frac{65}{-4} = \frac{3 \times 65}{13 \times (-4)} = \frac{195}{-52} = -\frac{15}{4}$$