Exercise 4C

L.C.M. of 36 and 12 is 36.

$\frac{-5}{36} = \frac{(-5)\times 1}{36\times 1} = \frac{-5}{36}$

$\frac{-7}{12} = \frac{-7\times 3}{12\times 3} = \frac{-21}{36}$

Now, $\frac{(-5)}{36} + \frac{(-21)}{36} = \frac{-5-21}{36}$

$\frac{-26}{36} = \frac{-13}{18}$ $\left(26 \text{ and } 36 \text{ are divided by } 2\ .\right)$

(vi)

$\frac{1}{-9} + \left(\frac{4}{-27}\right)$

We need a positive denominator.

$\frac{1}{-9} \times \frac{-1}{-1} = \frac{-1}{9}$ and $\frac{4}{-27} \times \frac{-1}{-1} = \frac{-4}{27}$

The denominators of the given rational numbers are 9 and 27

3	9,27
3	3,9
3	1,3
	1,1

L.C.M. of 9 and 27 is 27

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

$\frac{-4}{27} = \frac{-4\times 1}{27\times 1} = \frac{-4}{27}$

$$\frac{(-3)}{27} + \frac{(-4)}{27} = \frac{-3-4}{27}$$

$$= \frac{-7}{27}$$

(vii)

$\frac{-9}{24} + \left(\frac{-1}{18}\right)$

The denominators of the given numbers are 24 and 18

3	24,18
2	8,6
2	4,3
2	2,3
3	1,3
	1,1

L. C. M. of 24 and 18 is 72.

$\therefore \frac{-9}{24} = \frac{-9\times3}{24\times3} = \frac{-27}{72}$

$\frac{-1}{18} = \frac{-1\times4}{18\times4} = \frac{-4}{72}$

Now, $\frac{-27}{72} + \left(\frac{-4}{72}\right)$

$= \frac{-27+(-4)}{72}$

$= \frac{-27-4}{72}$

$= \frac{-31}{72}$

(viii) $\frac{27}{-4} + \left(\frac{-15}{8}\right)$

We need a positive denominator.

$\frac{27}{-4} \times \frac{-1}{-1} = \frac{-27}{4}$

The denominators of the given rational numbers are 4 and 8.

2	4,8
2	2,4
2	1,2
	1,1

L.C.M. of 4 and 8 is 8.

$\frac{-27}{4} = \frac{-27\times2}{4\times2} = \frac{-54}{8}$

$\frac{(-15)}{8} = \frac{(-15)\times1}{8\times1} = \frac{-15}{8}$

Now, $\frac{-54}{8} + \frac{(-15)}{8}$

$= \frac{-54-15}{8}$

$= \frac{-69}{8}$

Q3

Answer :

(i)

$\frac{-3}{5} + \frac{7}{5} + \frac{-1}{5}$

L.C.M. of the given rational number is 5.

$\frac{(-3)}{5} + \frac{7}{5} + \frac{(-1)}{5}$

$= \frac{-3+7-1}{5}$

$= \frac{-4+7}{5}$

$= \frac{3}{5}$

(ii)

$\frac{-12}{7} + \frac{3}{7} + \frac{-2}{7}$

$= \frac{(-12)}{7} + \frac{3}{7} + \frac{(-2)}{7}$

$= \frac{-12+3-2}{7}$

$= \frac{-14+3}{7}$

$= \frac{-11}{7}$

********** END **********