Rational Numbers Ex 4.6 Q5

Answer :

(i) Ascending order:

Since, LCM of $5, -30, -15, 10$ is 30.

Multiplying the numerators and denominators to get the denominator equal to the LCM,

$\frac{3}{5} = \frac{3 \times 6}{5 \times 6} = \frac{18}{30}$,

$\frac{17}{30} = \frac{17 \times 1}{30 \times 1} = \frac{17}{30}$,

$\frac{8}{-15} = \frac{-8 \times 2}{15 \times 2} = \frac{-16}{30}$,

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

Order is $-21 < -16 < 17 < 8$.

Order is $\frac{-7}{10} < \frac{8}{-15} < \frac{17}{30} < \frac{3}{5}$.

(ii)

Since, LCM of $9, -12, -18, 3$ is 36.

Multiplying the numerators and denominators to get the denominator equal to the LCM,

$\frac{-4}{9} = \frac{-4 \times 4}{9 \times 4} = \frac{-16}{36}$

$\frac{5}{-12} = \frac{-5 \times 3}{12 \times 3} = \frac{-15}{36}$

$\frac{7}{-18} = \frac{-7 \times 2}{18 \times 2} = \frac{-14}{36}$

$\frac{2}{-3} = \frac{-2 \times 12}{3 \times 12} = \frac{-24}{36}$.

Order is $-24 < -16 < -15 < -14$.

Order is $\frac{2}{-3} < \frac{-4}{9} < \frac{5}{-12} < \frac{7}{-18}$.

Rational Numbers Ex 4.6 Q6

Answer :

We have to arrange them in descending order.

(i)

Since, LCM of $8, 16, -12, -4, 28$ is 336.

Multiplying the numerators and denominators, to get the denominator equal to the LCM,

$\frac{7}{8} = \frac{7 \times 42}{8 \times 42} = \frac{294}{336}$,

$\frac{64}{16} = \frac{64 \times 21}{16 \times 21} = \frac{1344}{336}$,

$\frac{36}{-12} = \frac{-36 \times 28}{12 \times 28} = \frac{-1008}{336}$,

$\frac{5}{-4} = \frac{-5 \times 84}{4 \times 84} = \frac{-420}{336}$,

$\frac{140}{28} = \frac{140 \times 12}{28 \times 12} = \frac{1680}{336}$.

Order is $1680 > 1344 > 294 > -420 > -1008$.

Order is $\frac{140}{28} > \frac{64}{16} > \frac{7}{8} > \frac{5}{-4} > \frac{36}{-12}$.

(ii)

Since, LCM of $10, -30, -15, 20$ is 60.

Multiplying the numerators and denominators, to get the denominator equal to the LCM,

$\frac{-3}{10} = \frac{-3 \times 6}{10 \times 6} = \frac{-18}{60}$,

$\frac{17}{-30} = \frac{-17 \times 2}{30 \times 2} = \frac{-34}{60}$,

$\frac{7}{-15} = \frac{-7 \times 4}{15 \times 4} = \frac{-28}{60}$,

$\frac{-11}{20} = \frac{-11 \times 3}{20 \times 3} = \frac{-33}{60}$,

Order is, $-18 > -28 > -33 > -34$.

Order is $\frac{-3}{10} > \frac{7}{-15} > \frac{-11}{20} > \frac{17}{-30}$.

Rational Numbers Ex 4.6 Q7

Answer :

(i) False; it lies to the right of zero because it is a positive number.
(ii) False; it lies to the right of zero because it is a positive number.
(iii) True
(iv) True; they are of opposite signs.
(v) False; they both are of same signs.
(v) True; they both are of opposite signs and positive number is greater than the negative number. Thus, it is on the right of the negative number.

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