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,
$\frac{3}{5} = \frac{3\times6}{5\times6} = \frac{18}{30}$,
$\frac{17}{30} = \frac{17\times1}{30\times1} = \frac{17}{30}$,
$\frac{8}{-15} = \frac{-8\times2}{15\times2} = \frac{-16}{30}$,
$\frac{-7}{10} = \frac{-7\times3}{10\times3} = \frac{-21}{30}$.
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,
$\frac{-4}{9} = \frac{-4\times4}{9\times4} = \frac{-16}{36}$
$\frac{5}{-12} = \frac{-5\times3}{12\times3} = \frac{-15}{36}$
$\frac{7}{-18} = \frac{-7\times2}{18\times2} = \frac{-14}{36}$
$\frac{2}{-3} = \frac{-2\times12}{3\times12} = \frac{-24}{36}$.
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,
$\frac{7}{8} = \frac{7\times42}{8\times42} = \frac{294}{336}$,
$\frac{64}{16} = \frac{64\times21}{16\times21} = \frac{1344}{336}$,
$\frac{36}{-12} = \frac{-36\times28}{12\times28} = \frac{-1008}{336}$,
$\frac{5}{-4} = \frac{-5\times84}{4\times84} = \frac{-420}{336}$,
$\frac{140}{28} = \frac{140\times12}{28\times12} = \frac{1680}{336}$.
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,
$\frac{-3}{10} = \frac{-3\times6}{10\times6} = \frac{-18}{60}$,
$\frac{17}{-30} = \frac{-17\times2}{30\times2} = \frac{-34}{60}$,
$\frac{7}{-15} = \frac{-7\times4}{15\times4} = \frac{-28}{60}$,
$\frac{-11}{20} = \frac{-11\times3}{20\times3} = \frac{-33}{60}$,
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 **********