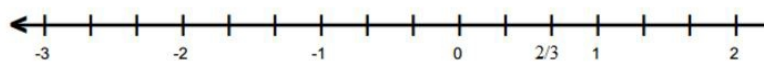
Rational Numbers Ex 4.6 Q1

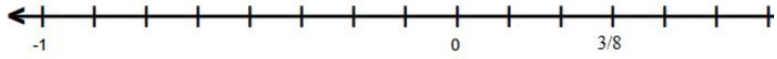
Answer :

(i)

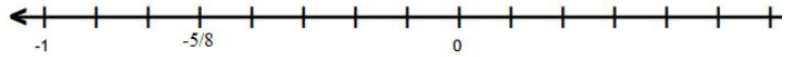


(ii)

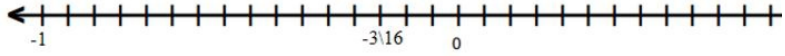
(iii)



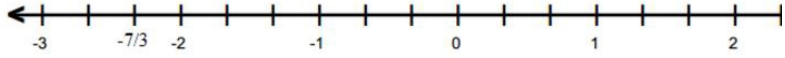
(iv)



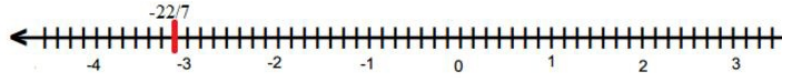
(v)



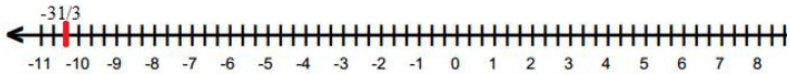
(vi)



(vii)



(viii)



Rational Numbers Ex 4.6 Q2

Answer :

(i) We know that every positive rational number is greater than zero and every negative rational number is smaller than zero. Thus,

$\frac{-3}{8} > 0$

(ii) $\frac{5}{2} > 0$. Because every positive rational number is greater than zero and every negative rational number is smaller than zero.

(iii) $\frac{-4}{8} < \frac{3}{11}$. Because every positive rational number is greater than zero and every negative rational number is smaller than zero.

(iv)

$\frac{-7}{12} = \frac{-7\times2}{12\times2} = \frac{-14}{24}$ and $\frac{5}{-8} = \frac{-5\times3}{8\times3} = \frac{-15}{24}$

Therefore, $\frac{-7}{12} > \frac{5}{-8}$

(v)

$\frac{4}{-9} = \frac{-4\times7}{9\times7} = \frac{-28}{63}$ and $\frac{-3}{-7} = \frac{3\times7}{7\times9} = \frac{21}{63}$

Therefore, $\frac{4}{-9} < \frac{-3}{-7}$

(vi)

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

$$\text{Therefore, } \frac{-5}{8} > \frac{3}{-4}$$

(vii)

$$\frac{5}{9} = \frac{5\times8}{9\times8} = \frac{40}{72} \text{ and } \frac{-3}{-8} = \frac{3\times9}{8\times9} = \frac{27}{72}$$

$$\text{Therefore, } \frac{5}{9} > \frac{-3}{-8}$$

(viii)

$$\frac{-7}{12} = \frac{-7\times2}{12\times2} = \frac{-14}{24} \text{ and } \frac{5}{-8} = \frac{-5\times3}{8\times3} = \frac{-15}{24}$$

$$\text{Therefore, } \frac{-7}{12} > \frac{5}{-8}$$

Rational Numbers Ex 4.6 Q3

Answer :

(i) $\frac{-6}{-13} = \frac{6}{13} < \frac{7}{13}$

(ii) $\frac{16}{-5} < 3$

(iii)

$$\frac{-4}{3} = \frac{-4\times7}{3\times7} = \frac{-28}{21} \text{ and } \frac{8}{-7} = \frac{-8\times3}{7\times3} = \frac{-24}{21}$$

$$\text{Therefore, } \frac{-4}{3} < \frac{8}{-7}$$

(iv)

$$\frac{-12}{5} \text{ and } -3 = \frac{-3\times5}{1\times5} = \frac{-15}{5}$$

$$\text{Therefore } \frac{-12}{5} > -3$$

Rational Numbers Ex 4.6 Q4

Answer :

(i) Because every positive number is greater than a negative number, $\frac{-6}{7} < \frac{7}{13}$.

(ii) On multiplying $\frac{-3}{5}$ by $\frac{6}{6}$, we get $\frac{-18}{30}$.

On multiplying $\frac{-5}{6}$ by $\frac{5}{5}$, we get $\frac{-25}{30}$.

Because $-18 > -25$, $\frac{-3}{5} > \frac{-5}{6}$.

(iii) On multiplying $\frac{-2}{3}$ by $\frac{8}{8}$, we get $\frac{-16}{24}$.

On multiplying $\frac{5}{-8}$ by $\frac{3}{3}$, we get $\frac{15}{-24} = \frac{-15}{24}$.

Because $-15 > -16$, $\frac{-2}{3} < \frac{5}{-8}$.

(iv) Because every positive number is greater than a negative number, $0 > \frac{-2}{5}$.

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