

Class - 8th
Maths

Multiplication of rational numbers:

for any two rationals $\frac{a}{b}$ and $\frac{c}{d}$,

$$\left(\frac{a}{b} \times \frac{c}{d}\right) = \frac{(a \times c)}{(b \times d)}$$

Example:

Find each of the following products:

(i) $\frac{2}{3} \times \frac{-5}{7}$

(ii) $\frac{-7}{8} \times \frac{3}{5}$

(iii) $\frac{-3}{7} \times \frac{14}{5}$

(iv) $\frac{13}{6} \times \frac{-18}{91}$

Solution:

(i) $\frac{2}{3} \times \frac{-5}{7} = \frac{2 \times (-5)}{3 \times 7} = \frac{-10}{21}$

(ii) $\frac{-7}{8} \times \frac{3}{5} = \frac{(-7) \times 3}{8 \times 5} = \frac{-21}{40}$

(iii) $\frac{-3}{7} \times \frac{14}{5} = \frac{-3}{\cancel{7}_1} \times \frac{14^2}{5} = \frac{-3 \times 2}{1 \times 5} = \frac{-6}{5}$

(iv) $\frac{13}{6} \times \frac{-18}{91} = \frac{13^1}{\cancel{6}_1} \times \frac{-18^{-3}}{\cancel{91}_7} = \frac{1 \times (-3)}{1 \times 7} = \frac{-3}{7}$