Exercise 1D

Q3

Answer :

(i)

$$\left(\frac{5}{7}\times\frac{12}{13}\right)\times\frac{7}{18}=\frac{5}{7}\times\left(\frac{12}{13}\times\frac{7}{18}\right)$$

$$\text{LHS}=\left(\frac{5}{7}\times\frac{12}{13}\right)\times\frac{7}{18}$$
$$=\frac{5\times12}{7\times13}\times\frac{7}{18}$$
$$=\frac{60}{91}\times\frac{7}{18}$$
$$=\frac{420}{1638}$$
$$=\frac{10}{39}$$

$$\text{RHS}=\frac{5}{7}\times\left(\frac{12}{13}\times\frac{7}{18}\right)$$
$$=\frac{5}{7}\times\frac{12\times7}{13\times18}$$
$$=\frac{5}{7}\times\frac{84}{234}$$
$$=\frac{420}{1638}$$
$$=\frac{10}{39}$$

$$\therefore\left(\frac{5}{7}\times\frac{12}{13}\right)\times\frac{7}{18}=\frac{5}{7}\times\left(\frac{12}{13}\times\frac{7}{18}\right)$$

(ii)

$$\frac{-13}{24} \times \left(\frac{-12}{5} \times \frac{35}{36} \right) = \left(\frac{-13}{24} \times \frac{-12}{5} \right) \times \frac{35}{36}$$

$$\text{LHS} = \frac{-13}{24} \times \left(\frac{-12}{5} \times \frac{35}{36} \right)$$

$$= \frac{-13}{24} \times \frac{(-12) \times 35}{5 \times 36}$$

$$= \frac{-13}{24} \times \frac{-420}{180}$$

$$= \frac{5460}{4320}$$

$$= \frac{91}{72}$$

$$\text{RHS} = \left(\frac{-13}{24} \times \frac{-12}{5}\right) \times \frac{35}{36}$$

$$= \frac{(-13)\times(-12)}{24\times5} \times \frac{35}{36}$$

$$= \frac{156}{120} \times \frac{35}{36}$$

$$= \frac{156\times35}{120\times36}$$

$$= \frac{5460}{4320}$$

$$= \frac{91}{72}$$

$$\therefore \frac{-13}{24} \times \left(\frac{-12}{5} \times \frac{35}{36}\right) = \left(\frac{-13}{24} \times \frac{-12}{5}\right) \times \frac{35}{36}$$

(iii)

$$\left(\frac{-9}{5} \times \frac{-10}{3}\right) \times \frac{21}{-4} = \frac{-9}{5} \times \left(\frac{-10}{3} \times \frac{21}{-4}\right)$$

$$\text{LHS} = \left(\frac{-9}{5} \times \frac{-10}{3}\right) \times \frac{21}{-4}$$

$$= \frac{(-9)\times(-10)}{5\times3} \times \frac{21}{-4}$$

$$= \frac{90}{15} \times \frac{21}{-4}$$

$$= \frac{90\times21}{15\times(-4)}$$

$$= -\frac{1890}{60}$$

$$= -\frac{63}{2}$$

$$\text{RHS} = \frac{-9}{5} \times \left(\frac{-10}{3} \times \frac{21}{-4}\right)$$

$$= \frac{-9}{5} \times \frac{(-10)\times 21}{3\times(-4)}$$

$$= \frac{-9}{5} \times \frac{210}{12}$$

$$= \frac{(-9)\times 210}{5\times 12}$$

$$= -\frac{1890}{60}$$

$$= \frac{-63}{2}$$

$$\therefore \left(\frac{-9}{5} \times \frac{-10}{3}\right) \times \frac{21}{-4} = \frac{-9}{5} \times \left(\frac{-10}{3} \times \frac{21}{-4}\right)$$

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