



Exercise 1E

Q1

Answer :

(i)

$$\begin{aligned}\frac{4}{9} \div \frac{-5}{12} \\&= \frac{4}{9} \times \frac{12}{-5} \\&= \frac{4 \times 12}{9 \times -5} \\&= \frac{48}{-45} \\&= \frac{-48}{45} \\&= \frac{-16}{15}\end{aligned}$$

(ii)

$$\begin{aligned}-8 \div \frac{-7}{16} \\&= -8 \times \frac{16}{-7} \\&= \frac{8 \times 16}{7} \\&= \frac{128}{7}\end{aligned}$$

(iii)

$$\begin{aligned}\frac{-12}{7} \div (-18) \\&= \frac{-12}{7} \times \frac{1}{-18}\end{aligned}$$

$$= \frac{12}{126}$$

$$= \frac{12 \div 3}{126 \div 3}$$

$$= \frac{4}{42}$$

$$= \frac{4 \div 2}{42 \div 2}$$

$$= \frac{2}{21}$$

$$\text{(iv)}$$

$$\frac{-1}{10} \div \frac{-8}{5}$$

$$= \frac{-1}{10} \times \frac{5}{-8}$$

$$= \frac{5}{80}$$

$$= \frac{5 \div 5}{80 \div 5}$$

$$= \frac{1}{16}$$

$$\begin{aligned}
 & \frac{-1}{10} \div \frac{-8}{5} \\
 &= \frac{-1}{10} \times \frac{5}{-8} \\
 &= \frac{5}{80} \\
 &= \frac{5 \div 5}{80 \div 5} \\
 &= \frac{1}{16}
 \end{aligned}$$

(v)

$$\begin{aligned}
 & \frac{-10}{35} \div \frac{-15}{14} \\
 &= \frac{-10}{35} \times \frac{14}{-15} \\
 &= \frac{224}{525}
 \end{aligned}$$

(vi)

$$\begin{aligned}
 & \frac{-65}{14} \div \frac{13}{7} \\
 &= \frac{-65}{14} \times \frac{7}{13} \\
 &= \frac{-5}{2}
 \end{aligned}$$

Answer :

(i)

$$\frac{13}{5} \div \frac{26}{10} = \frac{26}{10} \div \frac{13}{5}$$

LHS

$$\begin{aligned}\frac{13}{5} \div \frac{26}{10} \\&= \frac{13}{5} \times \frac{10}{26} \\&= \frac{130}{130} \\&= 1\end{aligned}$$

RHS

$$\begin{aligned}\frac{26}{10} \div \frac{13}{5} \\&= \frac{26}{10} \times \frac{5}{13} \\&= \frac{130}{130} \\&= 1\end{aligned}$$

TRUE

(ii) $-9 \div \frac{3}{4} = \frac{3}{4} \div (-9)$ LHS $-9 \div \frac{3}{4} = -9 \times \frac{4}{3} = \frac{-36}{3} = -12$ RHS $\frac{3}{4} \div (-9) = \frac{3}{4} \times \frac{1}{-9}$

$= \frac{3}{-36} = \frac{-1}{12}$ FALSE iii) $\frac{-8}{9} \div \frac{-4}{3} = \frac{-4}{3} \div \frac{-8}{9}$ LHS $\frac{-8}{9} \div \frac{-4}{3}$

$= \frac{-8}{9} \times \frac{3}{-4} = \frac{24}{36} = \frac{2}{3}$ RHS $\frac{-4}{3} \div \frac{-8}{9} = \frac{-4}{3} \times \frac{9}{-8} = \frac{36}{24}$

$= \frac{3}{2}$ FALSE (iv) $\frac{-7}{24} \div \frac{3}{-16} = \frac{3}{-16} \div \frac{-7}{24}$ LHS $\frac{-7}{24} \times \frac{-16}{3}$

$= \frac{112}{72}$ RHS $\frac{3}{-16} \div \frac{-7}{24} = \frac{3}{-16} \times \frac{24}{-7} = \frac{72}{112}$ FALSE

Q3

Answer :

(i)

$$\left(\frac{5}{9} \div \frac{1}{3}\right) \div \frac{5}{2} = \frac{5}{9} \div \left(\frac{1}{3} \div \frac{5}{2}\right)$$

LHS

$$\begin{aligned}\left(\frac{5}{9} \div \frac{1}{3}\right) \div \frac{5}{2} \\&= \left(\frac{5}{9} \times \frac{3}{1}\right) \times \frac{2}{5} \\&= \frac{5 \times 3 \times 2}{9 \times 1 \times 5} \\&= \frac{30}{45} \\&= \frac{2}{3}\end{aligned}$$

RHS

$$\begin{aligned}\frac{5}{9} \div \left(\frac{1}{3} \div \frac{5}{2}\right) \\&= \frac{5}{9} \div \left(\frac{1}{3} \times \frac{2}{5}\right) \\&= \frac{5}{9} \div \left(\frac{2}{15}\right) \\&= \frac{5}{9} \times \left(\frac{15}{2}\right) = \frac{75}{18} \\&= \frac{25}{6}\end{aligned}$$

LHS \neq RHS

FALSE

FALSE

(ii)

$$\left[\left(-16 \right) \div \frac{6}{5} \right] \div \frac{-9}{10} = \left(-16 \right) \div \left[\frac{6}{5} \div \frac{-9}{10} \right]$$

LHS

$$= \left[\left(-16 \right) \div \frac{6}{5} \right] \div \frac{-9}{10}$$

$$= \left[\left(-16 \right) \times \frac{5}{6} \right] \times \frac{10}{-9}$$

$$= \frac{(-16) \times 5 \times 10}{6 \times (-9)}$$

$$= \frac{800}{54}$$

$$= \frac{400}{27}$$

RHS

$$\left(-16 \right) \div \left(\frac{6}{5} \div \frac{-9}{10} \right)$$

$$= \left(-16 \right) \div \left(\frac{6}{5} \times \frac{10}{-9} \right)$$

$$= -16 \div \left\{ \frac{-60}{45} \right\}$$

$$= -16 \times \left(\frac{-45}{60} \right)$$

$$= \frac{48}{4}$$

$$= 12$$

LHS \neq RHS

FALSE

(iii)

$$\left(\frac{-3}{5} \div \frac{-12}{35} \right) \div \frac{1}{14} = \frac{-3}{5} \div \left(\frac{-12}{35} \div \frac{1}{4} \right)$$

LHS

$$= \left(\frac{-3}{5} \times \frac{35}{-12} \right) \times 14$$

$$= (-9) \times 14$$

$$\begin{aligned}
&= \frac{(-3) \times 35 \times 14}{5 \times (-12)} \\
&= \frac{1470}{60} \\
&= \frac{49}{2}
\end{aligned}$$

RHS

$$\begin{aligned}
&= \frac{-3}{5} \div \left(\frac{-12}{35} \div \frac{1}{4} \right) \\
&= \frac{-3}{5} \div \left(\frac{-12}{35} \times \frac{4}{1} \right) \\
&= \frac{-3}{5} \div \left(\frac{-12 \times 4}{35} \right) \\
&= \frac{-3}{5} \div \left(\frac{-12 \times 4}{35} \right) \\
&= \frac{-3}{5} \div \left(\frac{-48}{35} \right) \\
&= \frac{-3}{5} \times \frac{35}{-48} \\
&= \frac{3 \times 35}{5 \times 48} \\
&= \frac{105}{240} \\
&= \frac{7}{16}
\end{aligned}$$

LHS \neq RHS

FALSE

***** END *****