



Exercise 1C

Q7

Answer :

$$(i) \left(\frac{1}{3} - \frac{3}{4} \right) = \frac{1}{3} + \left(\text{Additive inverse of } \frac{3}{4} \right)$$

$$= \left(\frac{1}{3} + \frac{-3}{4} \right) = \left(\frac{4}{12} + \frac{-9}{12} \right) = \left(\frac{4-9}{12} \right) = \frac{-5}{12}$$

$$(ii) \left(\frac{1}{3} - \frac{-5}{6} \right) = \frac{1}{3} + \left(\text{Additive inverse of } \frac{-5}{6} \right)$$

$$= \left(\frac{1}{3} + \frac{5}{6} \right) \text{ (Because the additive inverse of } \frac{-5}{6} \text{ is } \frac{5}{6} \text{)}$$

$$= \left(\frac{2}{6} + \frac{5}{6} \right) = \left(\frac{2+5}{6} \right) = \frac{7}{6}$$

$$(iii) \left(\frac{-3}{5} - \frac{-8}{9} \right) = \frac{-3}{5} + \left(\text{Additive inverse of } \frac{-8}{9} \right)$$

$$= \left(\frac{-3}{5} + \frac{8}{9} \right) \text{ (Because the additive inverse of } \frac{-8}{9} \text{ is } \frac{8}{9} \text{)}$$

$$= \left(\frac{-27}{45} + \frac{40}{45} \right) = \left(\frac{-27+40}{45} \right) = \frac{13}{45}$$

$$(iv) \left(-1 - \frac{-9}{7} \right) = -1 + \left(\text{Additive inverse of } \frac{-9}{7} \right)$$

$$= \left(\frac{-1}{1} + \frac{9}{7} \right) \text{ (Because the additive inverse of } \frac{-9}{7} \text{ is } \frac{9}{7} \text{)}$$

$$= \left(\frac{-7}{7} + \frac{9}{7} \right) = \left(\frac{-7+9}{7} \right) = \frac{2}{7}$$

$$\begin{aligned}
 \text{(v)} \quad \left(1 - \frac{-18}{11}\right) &= 1 + \left(\text{Additive inverse of } \frac{-18}{11}\right) \\
 &= \left(\frac{1}{1} + \frac{18}{11}\right) \text{ (Because the additive inverse of } \frac{-18}{11} \text{ is } \frac{18}{11}) \\
 &= \left(\frac{11}{11} + \frac{18}{11}\right) = \left(\frac{11+18}{11}\right) = \frac{29}{11}
 \end{aligned}$$

$$\begin{aligned}
 \text{(vi)} \quad \left(0 - \frac{-13}{9}\right) &= 0 + \left(\text{Additive inverse of } \frac{-13}{9}\right) \\
 &= \left(0 + \frac{13}{9}\right) \text{ (Because the additive inverse of } \frac{-13}{9} \text{ is } \frac{13}{9}) \\
 &= \frac{13}{9}
 \end{aligned}$$

$$\begin{aligned}
 \text{(vii)} \quad \left(\frac{-6}{5} - \frac{-32}{13}\right) &= \frac{-6}{5} + \left(\text{Additive inverse of } \frac{-32}{13}\right) \\
 &= \left(\frac{-6}{5} + \frac{32}{13}\right) \text{ (Because the additive inverse of } \frac{-32}{13} \text{ is } \frac{32}{13}) \\
 &= \left(\frac{-78}{65} + \frac{160}{65}\right) = \left(\frac{-78+160}{65}\right) = \frac{82}{65}
 \end{aligned}$$

$$\begin{aligned}
 \text{(vi)} \quad \left(0 - \frac{-13}{9}\right) &= 0 + \left(\text{Additive inverse of } \frac{-13}{9}\right) \\
 &= \left(0 + \frac{13}{9}\right) \text{ (Because the additive inverse of } \frac{-13}{9} \text{ is } \frac{13}{9}) \\
 &= \frac{13}{9}
 \end{aligned}$$

$$\begin{aligned}
 \text{(vii)} \quad \left(\frac{-6}{5} - \frac{-32}{13}\right) &= \frac{-6}{5} + \left(\text{Additive inverse of } \frac{-32}{13}\right) \\
 &= \left(\frac{-6}{5} + \frac{32}{13}\right) \text{ (Because the additive inverse of } \frac{-32}{13} \text{ is } \frac{32}{13}) \\
 &= \left(\frac{-78}{65} + \frac{160}{65}\right) = \left(\frac{-78+160}{65}\right) = \frac{82}{65}
 \end{aligned}$$

Q8

Answer :

$$\begin{aligned}
 \text{(i)} \quad &\left(\frac{4}{3} + \frac{-2}{3}\right) + \left(\frac{3}{5} + \frac{-11}{5}\right) \\
 &= \left(\frac{4-2}{3}\right) + \left(\frac{3-11}{5}\right) \\
 &= \left(\frac{2}{3} + \frac{-8}{5}\right)
 \end{aligned}$$

$$\begin{aligned}
 &= \left(\frac{10}{15} + \frac{-24}{15} \right) \\
 &= \left(\frac{10 - 24}{15} \right) \\
 &= \frac{-14}{15}
 \end{aligned}$$

(ii)

$$\begin{aligned}
 &\left(\frac{-8}{3} + \frac{-11}{6} \right) + \left(\frac{-1}{4} + \frac{3}{8} \right) \\
 &= \left(\frac{-16}{6} + \frac{-11}{6} \right) + \left(\frac{-2}{8} + \frac{3}{8} \right) \\
 &= \left(\frac{-16-11}{6} \right) + \left(\frac{-2+3}{8} \right) \\
 &= \left(\frac{-27}{6} + \frac{1}{8} \right) \\
 &= \left(\frac{-108}{24} + \frac{3}{24} \right) \\
 &= \frac{-105}{24} \\
 &= \frac{35}{8}
 \end{aligned}$$

(iii)

$$\left(\frac{-13}{20} + \frac{7}{10} \right) + \left(\frac{11}{14} + \frac{-5}{7} \right)$$

$\left(\frac{-13}{20} + \frac{14}{20} \right) + \left(\frac{11}{14} - \frac{10}{14} \right)$

$$\begin{aligned}
&= \left(\frac{-13}{20} + \frac{14}{20} \right) + \left(\frac{11}{14} + \frac{-10}{14} \right) \\
&= \left(\frac{-13+14}{20} \right) + \left(\frac{11-10}{14} \right) \\
&= \left(\frac{1}{20} + \frac{1}{14} \right) \\
&= \left(\frac{7}{140} + \frac{10}{140} \right) \\
&= \left(\frac{7+10}{140} \right) \\
&= \left(\frac{17}{140} \right) \\
&= \frac{17}{140}
\end{aligned}$$

(iv)

$$\begin{aligned}
&\left(\frac{-6}{7} + \frac{-15}{7} \right) + \left(\frac{-5}{6} + \frac{-4}{9} \right) \\
&= \left(\frac{-6}{7} + \frac{-15}{7} \right) + \left(\frac{-15}{18} + \frac{-8}{18} \right) \\
&= \left(\frac{-6-15}{7} \right) + \left(\frac{-15-8}{18} \right) \\
&= \left(\frac{-21}{7} + \frac{-23}{18} \right) \\
&= \left(\frac{-3}{1} + \frac{-23}{18} \right) \\
&= \left(\frac{-54}{18} + \frac{-23}{18} \right)
\end{aligned}$$

$$= \left(\frac{-54}{18} + \frac{23}{18} \right)$$

$$= \left(\frac{-54-23}{18} \right)$$

***** END *****