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

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

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

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

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

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

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

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

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

(v) $\left(1-\frac{-18}{11}\right)=1+\left(\text{Additive inverse of}\frac{-18}{11}\right)$

$=\left(\frac{1}{1}+\frac{18}{11}\right)$ (Because the additive inverse of $\frac{-18}{11}$ is $\frac{18}{11}$)

$=\left(\frac{11}{11}+\frac{18}{11}\right)=\left(\frac{11+18}{11}\right)=\frac{29}{11}$

(vi) $\left(0-\frac{-13}{9}\right)=0+\left(\text{Additive inverse of}\frac{-13}{9}\right)$

$=\left(0+\frac{13}{9}\right)$ (Because the additive inverse of $\frac{-13}{9}$ is $\frac{13}{9}$)

$=\frac{13}{9}$

(vii) $\left(\frac{-6}{5}-\frac{-32}{13}\right)=\frac{-6}{5}+\left(\text{Additive inverse of}\frac{-32}{13}\right)$

$=\left(\frac{-6}{5}+\frac{32}{13}\right)$ (Because the additive inverse of $\frac{-32}{13}$ is $\frac{32}{13}$)

$=\left(\frac{-78}{65}+\frac{160}{65}\right)=\left(\frac{-78+160}{65}\right)=\frac{82}{65}$

(vi) $\left(0-\frac{-13}{9}\right)=0+\left(\text{Additive inverse of}\frac{-13}{9}\right)$

$=\left(0+\frac{13}{9}\right)$ (Because the additive inverse of $\frac{-13}{9}$ is $\frac{13}{9}$)

$=\frac{13}{9}$

(vii) $\left(\frac{-6}{5}-\frac{-32}{13}\right)=\frac{-6}{5}+\left(\text{Additive inverse of}\frac{-32}{13}\right)$

$=\left(\frac{-6}{5}+\frac{32}{13}\right)$ (Because the additive inverse of $\frac{-32}{13}$ is $\frac{32}{13}$)

$=\left(\frac{-78}{65}+\frac{160}{65}\right)=\left(\frac{-78+160}{65}\right)=\frac{82}{65}$

Q8

Answer :

(i)

$\left(\frac{4}{3}+\frac{-2}{3}\right)+\left(\frac{3}{5}+\frac{-11}{5}\right)$

$=\left(\frac{4-2}{3}\right)+\left(\frac{3-11}{5}\right)$

$=\left(\frac{2}{3}+\frac{-8}{5}\right)$

$$-\left(\frac{2}{3}+\frac{-8}{5}\right)$$

$$=\left(\frac{10}{15}+\frac{-24}{15}\right)$$

$$=\left(\frac{10-24}{15}\right)$$

$$=\frac{-14}{15}$$

(ii)

$$\left(\frac{-8}{3}+\frac{-11}{6}\right)+\left(\frac{-1}{4}+\frac{3}{8}\right)$$

$$=\left(\frac{-16}{6}+\frac{-11}{6}\right)+\left(\frac{-2}{8}+\frac{3}{8}\right)$$

$$=\left(\frac{-16-11}{6}\right)+\left(\frac{-2+3}{8}\right)$$

$$=\left(\frac{-27}{6}+\frac{1}{8}\right)$$

$$=\left(\frac{-108}{24}+\frac{3}{24}\right)$$

$$=\frac{-105}{24}$$

$$=\frac{35}{8}$$

(iii)

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

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

$$= \left(\frac{\quad}{20} + \frac{\quad}{20}\right) + \left(\frac{\quad}{14} + \frac{\quad}{14}\right)$$

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

$$= \left(\frac{1}{20} + \frac{1}{14}\right)$$

$$= \left(\frac{7}{140} + \frac{10}{140}\right)$$

$$= \left(\frac{7+10}{140}\right)$$

$$= \left(\frac{17}{140}\right)$$

$$= \frac{17}{140}$$

(iv)

$$\left(\frac{-6}{7} + \frac{-15}{7}\right) + \left(\frac{-5}{6} + \frac{-4}{9}\right)$$

$$= \left(\frac{-6}{7} + \frac{-15}{7}\right) + \left(\frac{-15}{18} + \frac{-8}{18}\right)$$

$$= \left(\frac{-6-15}{7}\right) + \left(\frac{-15-8}{18}\right)$$

$$= \left(\frac{-21}{7} + \frac{-23}{18}\right)$$

$$= \left(\frac{-3}{1} + \frac{-23}{18}\right)$$

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

$$= \left(\frac{\quad}{18} + \frac{\quad}{18} \right)$$

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

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