109 (a) $x = 1, y = -\frac{1}{2}, z = \frac{1}{4}$

$LHS = x \times (y \times z)$
$= 1 \times (-\frac{1}{2} \times \frac{1}{4})$
$= 1 \times -\frac{1}{8}$
$= -\frac{1}{8}$

$RHS = (x \times y) \times z$
$= (1 \times -\frac{1}{2}) \times \frac{1}{4}$
$= -\frac{1}{2} \times \frac{1}{4}$
$= -\frac{1}{8}$

$\therefore x \times (y \times z) = (x \times y) \times z$

109 (b) $x = \frac{2}{3}, y = -\frac{3}{7}, z = \frac{1}{2}$

$LHS = x \times (y \times z)$
$= \frac{2}{3} \times (-\frac{3}{7} \times \frac{1}{2})$
$= \frac{1}{\cancel{2}} \times -\frac{\cancel{3}}{14_7}$
$= -\frac{1}{7}$

$RHS = (x \times y) \times z$
$= (\frac{2}{\cancel{3}} \times -\frac{\cancel{3}}{7}) \times \frac{1}{2}$
$= -\frac{2}{7} \times \frac{1}{2}$
$= -\frac{1}{7}$

$\therefore x \times (y \times z) = (x \times y) \times z$

109 (c) $x = -\frac{2}{7}, y = -\frac{5}{6}, z = \frac{1}{4}$

$LHS = x \times (y \times z)$
$= -\frac{2}{7} \times (-\frac{5}{6} \times \frac{1}{4})$
$= -\frac{2}{7} \times \frac{-5}{24_{12}}$
$= \frac{5}{84}$
$x \times (y \times z)$

$(x \times y) \times z$
$= (-\frac{\cancel{2}}{7} \times \frac{-5}{\cancel{6}_3}) \times \frac{1}{4}$
$= \frac{5}{21} \times \frac{1}{4}$
$= \frac{5}{84}$
$= (x \times y) \times z$