28.04.21

$a \times b + (a \times c) = \left(\frac{-2}{4_2} \times \frac{2^1}{3}\right) + \left(\frac{-2}{4} \times \frac{-5}{6_2}\right)$

$= \frac{-1}{2} + \frac{5}{8}$

$= \frac{-4+5}{8}$

$= \frac{1}{8}$

Thus, $a \times (b+c) = (a \times b) + (a \times c)$ (verified)

Page: 14 Exercise-1.1 (first in C.W. then H.W.)

1 (i) $\frac{-2}{3} \times \frac{3}{5} + \frac{5}{2} - \frac{3}{5} \times \frac{1}{6}$

$= \frac{-2}{3} \times \frac{3}{5} - \frac{3}{5} \times \frac{1}{6} + \frac{5}{2}$ [commutativity]

$= \frac{3}{5}\left(\frac{-2}{3} - \frac{1}{6}\right) + \frac{5}{2}$ [Distributivity]

$= \frac{3}{5}\left(\frac{-4-1}{6}\right) + \frac{5}{2}$

$= \frac{3^1}{5_1} \times \frac{-5^1}{6_2} + \frac{5}{2}$

$= \frac{-1}{2} + \frac{5}{2} = \frac{-1+5}{2} = \frac{4}{2} = 2$

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1.(ii) $\frac{2}{5} \times \left(\frac{-3}{7}\right) - \frac{1}{62} \times \frac{31}{2} + \frac{1}{147} \times \frac{21}{5}$

$= \frac{2}{5} \times \left(\frac{-3}{7}\right) + \frac{1}{7} \times \frac{1}{5} - \frac{1}{2} \times \frac{1}{2}$ [commutativity]

$= \frac{-6}{35} + \frac{1}{35} - \frac{1}{4}$

$= \left(\frac{-6}{35} + \frac{1}{35}\right) - \frac{1}{4}$ [Associativity]

$= \frac{-5}{35_7} - \frac{1}{4}$

$= \frac{-1}{7} - \frac{1}{4}$

$= \frac{-4-7}{28} = \frac{-11}{28}$

Q.3 (i) For $x = \frac{11}{15}$

$-(-x) = -\left(\frac{-11}{15}\right)$

= Additive Inverse of $\frac{-11}{15}$

$= \frac{11}{15} = x$

Thus, $-(-x) = x$