Distributive property of Multiplication

For any rational numbers a, b and c,

$$a \times (b+c) = (a \times b) + (a \times c)$$

or -

$$a(b+c) = ab + ac$$

Verification of the Distributive property of Multiplication:

Let us consider $a = \dfrac{-3}{4}$, $b = \dfrac{2}{3}$ and $c = \dfrac{-5}{6}$

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

$$= \dfrac{-3}{4} \times \left(\dfrac{4-5}{6} \right)$$

$$= \dfrac{-3}{4} \times \dfrac{-1}{6}$$

$$= \dfrac{1}{8}$$