(Q3)

(a) $[5] \cdot [8]$ in $\mathbb{Z}_{11} = [40 - (11 \cdot 3)] = [7]$

(b) $[5]^{-1}$ in $\mathbb{Z}_{11} = [9]$

(c) $[2] \cdot [3] + 4$ in $\mathbb{Z}_5 = [6] + [4] = [10] = [0]$

(d) $[6] \cdot [5]$ in $\mathbb{Z}_{15} = [30 - (15 \cdot 2)] = [0]$