(2) $c_k = a_k \oplus b_k \oplus s_k \leftarrow (a_k \oplus b_k \oplus c_k)$

$c_k = a_k \oplus b_k \oplus a_k \oplus b_k \oplus c_k$

$c_k = \underbrace{(a_k \oplus a_k)}_{0} \oplus \underbrace{(b_k \oplus b_k)}_{0} \oplus c_k$

$c_k = \underbrace{0 \oplus 0}_{0 \oplus 0 = 0} \oplus c_k$

$c_k = c_k$