

Question: Are the following identification schemes secure? If not - show the attack. If yes - show the intuition why.

Prover ( $a$ )	Verifier ( $A = g^a$ )
$x \in_R \mathbb{Z}_q^*, X = g^x$	
$\xrightarrow{X}$	
	$c \in_R \mathbb{Z}_q^*$
$\xleftarrow{c}$	
$s = x + a + c$	
$\xrightarrow{s}$	
	Accept iff $g^s = XAg^c$

Prover ( $a$ )	Verifier ( $A = g^a$ )
$x \in_R \mathbb{Z}_q^*, X = g^x$	
$\xrightarrow{X}$	
	$c \in_R \mathbb{Z}_q^*$
$\xleftarrow{c}$	
$s = c(x + a)$	
$\xrightarrow{s}$	
	Accept iff $g^s = (AX)^c$

Prover ( $a$ )	Verifier ( $A = g^a$ )
$x \in_R \mathbb{Z}_q^*, X = g^x$	
$\xrightarrow{X}$	
	$c \in_R \mathbb{Z}_q^*$
$\xleftarrow{c}$	
$s = xac, W = g^{ax}$	
$\xrightarrow{s, W}$	
	Accept iff $g^s = W^c$

Prover ( $a$ )	Verifier ( $A = g^a$ )
$x \in_R \mathbb{Z}_q^*, X = g^x$	
$\xrightarrow{X}$	
	$c \in_R \mathbb{Z}_q^*$
$\xleftarrow{c}$	
$s = c + xa, W = g^{ax}$	
$\xrightarrow{s, W}$	
	Accept iff $g^s = g^c W$

Prover ( $a$ )	Verifier ( $A = g^a$ )
$x \in_R \mathbb{Z}_q^*, X = g^x$	
$\xrightarrow{X}$	
	$c \in_R \mathbb{Z}_q^*$
$\xleftarrow{c}$	
$s = (a + cx)(c + ax),$ $W = g^{(ax^2)}, Z = g^{(xa^2)}$	
$\xrightarrow{s, W, Z}$	
	Accept iff $g^s = (AX^c W)^c Z$