

Xuehai's input Page:

(large) prime p :

integer g having prime order in F_p^* :

Secret int a (sender):

Secret int b (receiver):

John's part:

* the sender computes $A \equiv g^a \pmod{p}$

A:

correct

first compute g^a , then find
the remainder of the division
 g^a/p .

* the receiver computes $B \equiv g^b \pmod{p}$

B:

correct

first compute g^b , then find
the remainder of the division
 g^b/p .

* now, the individuals exchange A and B .

the shared secret value is:

$$B^a \equiv (g^b)^a \equiv g^{ab} = (g^a)^b \equiv A^b \pmod{p}$$

shared secret value:

correct

a few options:

- 1) First calculate B^a , then find the remainder of the division B^a/p
- 2) First calculate A^b , then find the remainder of the division A^b/p
- 3) First calculate g^{ab} , then find the remainder of the division g^{ab}/p

* done! The individuals have sent a secret key over an insecure channel!