name	Alice (sender)	Bob (Receiver)
1) Public Keying	$K_B^-(n,d) = (55,27)$ $K_B^+(n,e) = (55,3)$	$K_B^-(n,d) = (35,29)$ $K_B^+(n,e) = (35,5)$
2) Hash Function	$H(x) = x \bmod 13$	$H(x) = x \bmod 13$
3) Symmetric Keying	$K_S = 5$	How to get it?
4) Message	$m = 17$	How to get it?

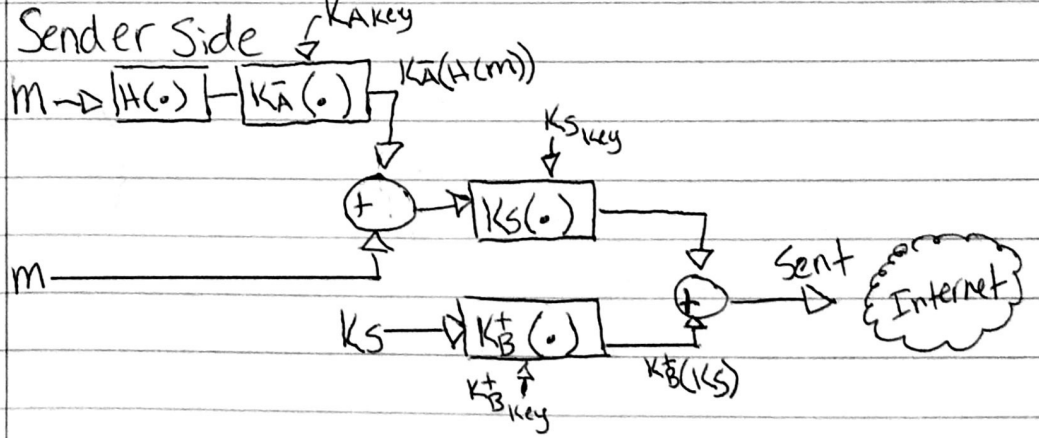
Alice (sender):

Step #	Description
1	Get message m → m=17
2	Hash message → H(m) = 17 % 13 = 4
3	Encrypt Hashed message → $4^d \bmod n = 4^{27} \% 55 = 49$
4	Integrate w/ digital signature → (m) | (DS): 17 | 49
5	Generate Symmetric Key → $K_S = 5$
6	Encrypt key w/ Bob's public key: $5^5 \bmod 35 = 10$
7	Encrypt message from 4 w/ key: 22 | 54
8	Integrate with encrypted msg: $K_S(m)$ | $K_S[K_A^-(H(m))]$ | $K_B^+(K_S)$: 22 | 54 | 10
9	Send step 8's result to Bob

Receiver (Bob): ($K_S(m)$) ($K_S[K_A^-(H(m))]$) ($K_B^+(K_S)$)

1	Receive data from alice: 22 | 54 | 10
2	Split session key/message: 22, 54 | 10
3	Decrypt Msg w/ Bob's private key: $K_B^-(10) = 10^{29} \% 35 = 5$
4	Decrypt Msg w/ session key: 17 | 49
5	Split Msg & DS: 17, 49
6	Hash Msg: 17 % 13 = 4
7	Decrypt Signature w/ Alice's Public Key: $P_A^+(55,3) \rightarrow 49^3 \bmod 55 = 4$
8	Compare hashes from 6 & 7: 4 = 4; they're equal
9	If hashes are equal, msg is okay: Pass integrity check; msg = Okay

2) Sender Side



3) Receiver Side