

1. Consider the RSA example below:

Plaintext (P)		Ciphertext (C)		After decryption		
Symbolic	Numeric	P^3	$P^3 \pmod{33}$	C^7	$C^7 \pmod{33}$	Symbolic
S	19	6859	28	13492928512	19	S
U	21	9261	21	1801088541	21	U
Z	26	17576	20	1280000000	26	Z
A	01	1	1	1	01	A
N	14	2744	5	78125	14	N
N	14	2744	5	78125	14	N
E	05	125	26	8031810176	05	E

Sender's computation
Receiver's computation

What is the modulus n ?
(3 points)

- A. 3
- B. 7
- C. 11
- ✓ D. 33

2. Consider the RSA example below:

Plaintext (P)		Ciphertext (C)			After decryption	
Symbolic	Numeric	P^3	$P^3 \pmod{33}$	C^7	$C^7 \pmod{33}$	Symbolic
S	19	6859	28	13492928512	19	S
U	21	9261	21	1801088541	21	U
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A	01	1	1	1	01	A
N	14	2744	5	78125	14	N
N	14	2744	5	78125	14	N
E	05	125	26	8031810176	05	E

Sender's computation
Receiver's computation

What is the public key e ?
(3 points)

- ✓ A. 3
- B. 7
- C. 11
- D. 33

3. Consider the RSA example below:

Plaintext (P)		Ciphertext (C)			After decryption	
Symbolic	Numeric	P^3	$P^3 \pmod{33}$	C^7	$C^7 \pmod{33}$	Symbolic
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A	01	1	1	1	01	A
N	14	2744	5	78125	14	N
N	14	2744	5	78125	14	N
E	05	125	26	8031810176	05	E

Sender's computation
Receiver's computation

What is the private key d ?
(3 points)

- A. 3
- ✓ B. 7
- C. 11
- D. 33