RSA Worksheet

Prime_1	Prime_2	Public Encryption Exponent	Private Decryption Exponent
2	3	5	1
17	5	13	4
5	7	11	1
7	11	13	6
13	3	17	10
3	5	11	2
5	7	13	2

Part 1 – create your encryption and decryption keys

1. Pick a row in the table, then create an encryption key and decryption key.

Public Encryption Key = _____ x _____ =
Prime_1 Prime_2

Private Decryption Key = _____x _____ =
(Prime_1 – 1) (Prime_2 -1)

Part 2 – use your partner's encryption key and exponent to send a message

1. Find a partner. Swap Public Encryption Keys and Exponents.
2. Encode a message to your partner, using your partner's public encryption key and exponent. Send a single letter converted to a number using the ASCII table.

Encrypted Message = _____ ^ _____% _____=
Letter Public Encryption Exp Public Encryption Key

Part 3 – decrypt the message from your partner using your private decryption exponent and private decryption key

Decrypted Message = _____ ^ _____% _____=
Message Private Decryption Exp Private Decryption Key

Part 4 – Check! Did you and your partner get the intended message?