

6 Data can be encrypted using asymmetric encryption.

(a) Complete the paragraph about asymmetric encryption.

Use the terms from the list.

Some of the terms in the list will **not** be used. You may use a term more than once.

algorithm	binary	cipher text	compression	error
hardware	hexadecimal	meaningless	plain text	private
public	readable	transmission	unreadable	

Data is encrypted using an encryption key. This is a type of

that scrambles the and turns it into

..... This makes the data

A key is used to encrypt the data. This key cannot be used to decrypt the data. A key is used to decrypt the data. Any device is able to request the key, but only your device knows the key.

[8]

(b) Data can also be encrypted using symmetric encryption.

Give **one** reason why a person would use asymmetric encryption instead of symmetric encryption.

.....
 [1]

7 Data is encrypted to keep it safe during transmission.

Complete the paragraph about asymmetric encryption.

Use the terms from the list.

Some of the terms in the list will **not** be used. You should only use a term once.

	asymmetric	certificate	cipher text	
decrypted	encrypted	parallel key	plain text	private key
protected	public key	serial key	symmetric	

..... is encrypted into

using a The encrypted data is then transmitted from the

sender to the receiver. The encrypted data is then decrypted using a

..... [4]

7 Data is transmitted using the internet.

(a) The data is encrypted before transmission.

(i) State the purpose of encrypting data.

.....
 [1]

(ii) Describe the differences between symmetric and asymmetric encryption.

.....

 [4]

(b) The data is transmitted using packet switching.

(i) Identify **two** items of data contained in a packet header.

1
 2 [2]

(ii) Give the purpose of a router in the packet-switching process.

.....
 [1]

8 (a) Draw and annotate a diagram that demonstrates the cyber security threat of data interception.

.....

(b) Identify **one** security solution that will help keep data safe from data interception and state why it will help keep the data safe.