Name: Class:

Task 1

Encryption is used to prevent unauthorised people from reading the contents of files and communications.

Complete the table below to explain how encryption is used in different circumstances in your personal life, home and school.

|  |  |
| --- | --- |
| **Type of encryption** | **How this is used in your personal life, home and school** |
| Encryption of transmitted data |  |
| Encryption of individual files |  |
| Encryption of drives |  |

Task 2

1. Fill in the blanks with the words beneath the text.

Firewalls are available as a special hardware device or as \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. A firewall will block \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_of information that are from certain malicious IP addresses. It can also block packets that are for \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_that are not used. When packets are blocked from entering a computer or network they are said to be \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. A firewall can look at the data inside each packet of data. This is known as \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. Computers that are protected by the firewall are part of the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

|  |  |  |
| --- | --- | --- |
| **Dropped** | **Packet inspection** | **Software** |
| **Packets** | **Ports** | **Trusted network** |

2. User access levels allow different users the ability to access different parts of a system.

For files, certain users may be given read, write or execute permissions.

Explain what each of these permissions allow a user or group of users to do with a file.

Read

Write

Execute

Task 3

There are many ways that companies and people can protect their computer systems and data.

Look at the table below and match the methods on the left with their meanings on the right.

|  |  |  |
| --- | --- | --- |
| **Method of protecting computer systems and data** |  | **Meaning** |
| Encrypting stored data |  | A string of characters used to gain access to a computer system |
| Anti-malware software |  | A company or person employed to try and find security holes in a system |
| Passwords |  | Files stored in an encoded format that cannot be decoded without a key or password |
| Encrypting communications |  | Prevents viruses, spyware, Trojans, worms and other malicious software |
| Penetration testing |  | Prevents users from accessing files or resources |
| Firewalls |  | Prevents certain packets of data from entering the network |
| User access levels |  | Using methods such as HTTPS (secure HTTP) for website access or WPA (Wi-Fi Protected Access) for wireless connections |
| Physical security |  | Any device that prevents people accessing computer hardware, software or networks – such as CCTV or locks |

Task 4

Go to: <https://www.my1login.com/resources/password-strength-test/>

(a) Complete the table below to explain the problems with the suggested passwords.

|  |  |
| --- | --- |
| **Password** | **Problems with password** |
| password |  |
| 123456 |  |
| trustno1 |  |
| passw0rd |  |
| Passw0 |  |
| jctbbqjc |  |
| JcT3£BBQ |  |
| [Try a password that you have previous used – **DO NOT USE A CURRENT PASSWORD**] |  |

(b) Suggest at least **three** rules that can be made to make strong passwords.

1.

2.

3.