Name: Class: Mark:

1. Derek is responsible for the network security in a finance company. The computers are connected to a server in a local area network. All computers in the network run Windows 10 with anti-virus software installed.

(a) Describe the features of anti-virus software that will protect the company from a virus entering the system. [4]

(b) The company’s network contains sensitive files and programs. They wish to keep their network trusted and secure. [4]

(i) Describe a method that is commonly used to keep the network secure from an untrusted external network such as the Internet.

(ii) To save costs, the company is considering replacing their hardware firewall with a software one. Explain **one** negative impact of this proposal. [2]

(c) Explain **two** other steps that Derek can take to help ensure the network is protected from cyber-attacks. [4]

2. A bank currently asks users to enter their username and password to gain access to online banking. They wish to improve the security of their site. Explain **three** ways in which the login procedure can be improved. [6]

[Total 20 marks]