**TASK 1 – Matching**

Match the descriptions to the correct hardware components. You can use each word once:  
  
**hub, router, switch, repeater, bridge, gateway, modem, Network Interface Card**

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| Description | Hardware Component |
| Connects devices on a network. Sends data packets to all connected devices. | Hub |
| Connects LAN networks that use the same protocol, allowing them to act as a single LAN network. | Bridge |
| A network point that acts as an entrance to another network. | gateway |
| Connects devices on a network. Changes port to send data packet to requesting device only. | Switch |
| Allows communication over multiple networks by converting the transmitting protocol into a protocol the recipient network will understand. | **router** |
| Converts digital data into an analogue medium allowing data to be transmitted over public communications channels. | modem |
| Contains the device’s MAC address and allows communication between the device and the network. | **Network Interface Card** |
| Amplifies analogue and digital signals to combat attenuation, allowing signals to travel longer distances. | Repeater |

**TASK 2 – Which Device?**

**Based on the specific network issues/scenarios listed below, name the hardware component needed to improve the performance of the LAN network.**

1. A LAN network needs to connect to a larger network; however, the larger network uses a different protocol to the LAN. Which component can be used to resolve this issue?  
     
   gateway
2. A home network transmits data through a digital medium. It receives it data signals from the local telecommunications centre which transmits data around the local area through an analogue medium. Which component can resolve this issue?  
     
   modem
3. An office building is expanding a small department so it will be based in three rooms instead of one. Each room operates as its own LAN network. Which device can be used to ensure all three rooms operate as a single LAN network?  
     
   bridge
4. When completing a research task in their bedroom, a student realises that their home wi-fi signal suffers attenuation as it passes through the floor to reach their device. They wish to work in their bedroom to avoid distraction. Which device can be used to improve the performance of the home LAN in this case?  
     
   repeater
5. A group of friends want to play Minecraft together. One person decides to act as the host and set up the virtual server on their device. Game data is transmitted to all players on the server. In this instance, which device is the host machine behaving as?  
     
   router
6. A computing company is based in a single office building. All employees are skilled in networking and cyber security. The company wants to ensure that requested information is only read by the machine that requests it to ensure their systems are secure. Which component can be used to achieve this?  
     
   switch