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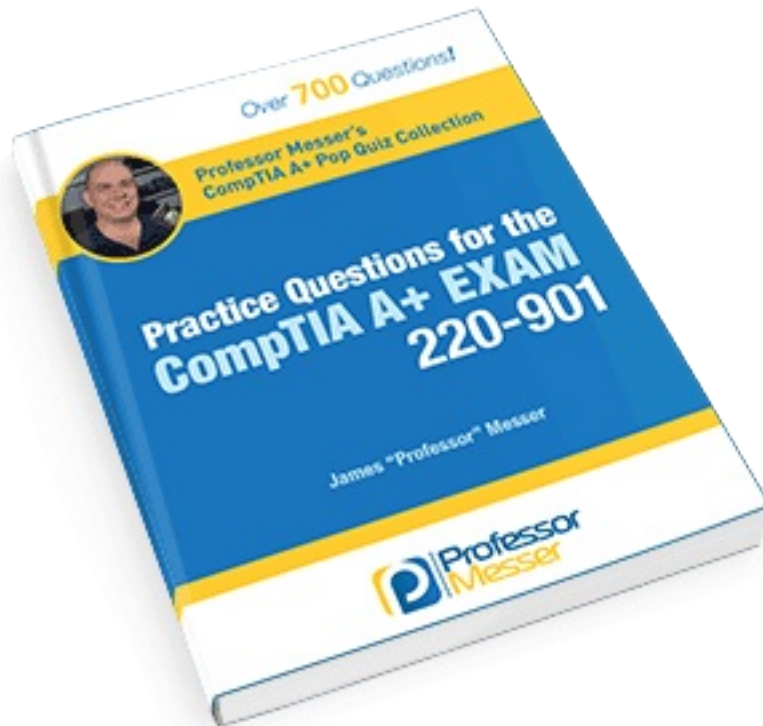
**James "Professor" Messer**



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*JAMES "PROFESSOR" MESSER*

<http://www.ProfessorMesser.com>

## **Professor Messer's CompTIA 220-901 A+ Pop Quiz Collection**

Written by James "Professor" Messer

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### **Warning and Disclaimer**

This book is designed to provide information about the CompTIA 220-901 A+ certification exams. However, there may be typographical and/or content errors. Therefore, this book should serve only as a general guide and not as the ultimate source of subject information. The author shall have no liability or responsibility to any person or entity regarding any loss or damage incurred, or alleged to have incurred, directly or indirectly, by the information contained in this book.

# TABLE OF CONTENTS

[Introduction](#)

## **Domain 1.0 - Hardware**

[Questions](#)

[Short Answers](#)

[Detailed Answers](#)

## **Domain 2.0 - Networking**

Questions

Short Answers

Detailed Answers

## **Domain 3.0 - Mobile Devices**

Questions

Short Answers

Detailed Answers

## **Domain 4.0 - Hardware and Network Troubleshooting**

Questions

Short Answers

Detailed Answers

## **220-901 Performance Based Questions**

[Questions](#)

[Answers](#)

Bonus Section: Study and Test Tips for your CompTIA Exam

[About the Author](#)

# Introduction

The process of answering a test question is our ultimate test of knowledge. After hours of video watching, book reading, and note taking, do you really know the material? If you're trying to prove yourself, nothing beats getting the right answer.

In 2009, I started an email list that would send subscribers a single CompTIA A+ sample exam question each day. I had no idea if there would be an interest in this list, but my daily Pop Quiz quickly gained in popularity. Today, tens of thousands of people try to answer my daily question, and I now write hundreds of Pop Quiz questions a year.

This book is a combination of my daily pop quiz questions, hundreds of new questions, and newly written performance-based questions. I've personally curated every question to validate its applicability to the 220-901 exam objectives, and many of the original Pop Quiz questions have been updated to make the questions and answers as unambiguous as possible.

I hope this book will help you be the smartest one in the room. Best of luck with your studies!

- Professor Messer

## The CompTIA A+ certification

CompTIA's A+ certification is considered to be the starting point for information technology professionals, and for good reason. Earning the A+ certification requires the completion of two exams covering a broad range of technology topics. After completing the CompTIA A+ certification, an A+ certified professional will have an understanding of computer memory modules, storage systems, operating systems, security techniques, and much more.

The current series of the A+ certification is based on the successful completion of the 220-901 and the 220-902 exams. You must pass both exams to earn your CompTIA A+ certification. This book focuses solely on questions and study materials for the 220-901 exam.

## THE 220-901 EXAM

The bulk of the 220-901 exam is about hardware, but that's only about a third of the overall exam content. You'll also need to know about networking, mobile devices, and how to troubleshoot all of these technologies.

Here's the breakdown of each domain and the percentage of each topic on the 220-901 exam:

Domain 1.0 - Hardware - 34%  
Domain 2.0 - Networking - 21%  
Domain 3.0 - Mobile Devices - 17%  
Domain 4.0 - Hardware and Network Troubleshooting - 28%

## THE 220-902 EXAM

The 220-902 exam shifts the focus to Windows operating systems, although there is a good bit of Mac OS and Linux on the exam as well. IT security is also well represented on the exam. Here's the 220-902 domain summary:

Domain 1.0 - Windows Operating Systems - 29%

Domain 2.0 - Other Operating Systems and Technologies - 12%

Domain 3.0 - Security - 22%

Domain 4.0 - Software Troubleshooting - 24%

Domain 5.0 - Operational Procedures - 13%

### **How to use this book**

Each chapter of exam domain questions contains three sections:

- **Questions:** The first section is a list of every question for a domain. There's a link after every question that will jump immediately to the answer page and a detailed explanation.
- **Short Answers:** This second section is a consolidated list of the answers without any detail or explanation.
- **Detailed Answers:** The detailed answer section repeats the question, the possible answers, and shows the answer and a detailed explanation. This section is formatted to show only one answer per page to avoid giving away the answer to any other questions. There's a link on this page that will take you to the next question in the domain.

Given this layout, there are two ways that most people will step through the questions. One method would be to read the question, decide on an answer, and then click the link to see the correct answer and the explanation. Clicking the return link on the explanation page will move you to the next question.

If you prefer testing yourself on all of the questions before checking your answers, you could read through the entire first section and record your answers separately. The quick answers section would then be an efficient way to check your results.

## COMPTIA A+ 220-901 - DOMAIN 1.0 - HARDWARE - QUESTIONS

1-1. Which of these connection types would you most commonly associate with NAS?

- A. Ethernet
- B. eSATA
- C. USB
- D. FireWire
- E. Serial

[Jump to Answer](#)

1-2. If you had four identical drives, which of these RAID types would provide both redundancy and the most available storage space for your data?

- A. RAID 0
- B. RAID 1
- C. RAID 5
- D. RAID 1 + 0

[Jump to Answer](#)

1-3. You have just purchased a new dual-core PC, but when you look at the Windows Task Manager's Performance tab, you see usage statistics for four CPUs. What would be the most likely cause of this difference?

- A. Dual-core CPUs appear as four separate CPUs in Windows
- B. The dual-core CPUs are using HTT
- C. The new computer uses dual-channel memory
- D. Windows Task Manager is improperly configured

[Jump to Answer](#)

1-4. What is one of the fundamental characteristics of parity memory?

- A. Parity memory identifies and corrects errors on the fly
- B. Parity memory will retry memory transactions until zero errors are identified
- C. Parity memory can be used on any computer
- D. Parity memory uses an additional bit to identify errors

[Jump to Answer](#)

1-5. What software is responsible for starting your computer when power is applied?

- A. MBR
- B. NTLDR
- C. OS Kernel
- D. BIOS

[Jump to Answer](#)



**1-6.** What type of voltages would you commonly expect to find on motherboard's power supply connector?

- A.** 120V AC
- B.** 12V DC, 5V DC, 3.3V DC
- C.** 12V AC, 5V AC, 3.3V AC
- D.** 120V DC

[Jump to Answer](#)

**1-7.** Which of these interface types would you expect to find in a laptop computer?

- A.** Mini PCI
- B.** DIMM
- C.** AGP
- D.** PCI-X

[Jump to Answer](#)

**1-8.** What 15-pin connector is commonly used to transmit video?

- A.** RCA
- B.** VGA
- C.** DVI
- D.** HDMI

[Jump to Answer](#)

**1-9.** Which of these best describes NFC?

- A.** Requires line-of-site communication
- B.** Commonly connects devices in an automobile
- C.** Operates at a range of 10 cm or less
- D.** Commonly used with wireless headsets
- E.** Uses light as a transport mechanism

[Jump to Answer](#)

**1-10.** What memory type is often used as L1 cache memory?

- A.** SRAM
- B.** DRAM
- C.** SDRAM
- D.** RDRAM

[Jump to Answer](#)

**1-11.** How does a thermal printer display information on a printed page?

- A.** The printer uses heat and pressure to "fuse" the image to the paper
- B.** A heated print head pulls a small bubble of ink from an ink cartridge
- C.** A small set of pins are heated and pressed onto the page
- D.** Special paper is heated until it changes color
- E.** A set of colored ink rolls are heated until the colors transfer to the paper

[Jump to Answer](#)

**1-12.** Which of these would be the best example of an output device? Pick two.

- A.** Barcode reader
- B.** Printer
- C.** Motion sensor
- D.** Speaker
- E.** Smart card reader
- F.** Webcam

[Jump to Answer](#)

**1-13.** Your new motherboard comes with four SATA ports. What is the maximum number of SATA devices that it can support?

- A.** Two at any time, using any of the four interfaces
- B.** Four devices
- C.** Eight devices
- D.** The maximum number of devices will be dependent on the SATA speeds of the devices

[Jump to Answer](#)

**1-14.** Which of these features would not be commonly found in a BIOS?

- A.** Hardware diagnostics
- B.** USB port disabling
- C.** Disk partitioning options
- D.** Date and time settings

[Jump to Answer](#)

**1-15.** Which of these memory types are designed to detect errors? Pick two.

- A.** ECC
- B.** SDRAM
- C.** DDR
- D.** Parity memory

[Jump to Answer](#)

**1-16.** What type of memory is used to improve the performance of CPU instruction processing?

- A.** Cache
- B.** Static
- C.** Hybrid
- D.** SDRAM

[Jump to Answer](#)

**1-17.** Which of these best describes digital modulation?

- A.** Listening to an FM radio station
- B.** Playing audio from computer speakers
- C.** Using a modem for Internet connectivity
- D.** Ringing a bell

[Jump to Answer](#)

**1-18.** Which of these characteristics would be most important for a CAD/CAM workstation? Pick two.

- A.** Powerful processor
- B.** High-end video
- C.** Enhanced audio
- D.** HDMI interfaces
- E.** TV tuner

[Jump to Answer](#)

**1-19.** You've just replaced the SATA hard drive in your desktop PC with an SSD. Which of these changes should you expect? Pick two.

- A.** Access to your data on the SSD should be faster than the hard drive
- B.** The SSD should require more defragmentation than the hard drive
- C.** The SSD should make as much noise as your hard drive when accessing data
- D.** The SSD should have very similar motherboard connections as the existing hard drive interface

[Jump to Answer](#)

**1-20.** What is the purpose of a CPU cache?

- A.** It increases the clock rate of the CPU
- B.** Improves the overall clock speed of the FSB
- C.** Adds an extra CPU core at each cache layer
- D.** Holds data, instructions, or results for fast retrieval

[Jump to Answer](#)

**1-21.** Which of these security technology restricts users from making any changes to their hardware configuration?

- A. Wireless encryption
- B. Anti-spyware software
- C. BIOS security
- D. Biometrics

[Jump to Answer](#)

**1-22.** You have recently upgraded the CPU in one of your servers, including a heat sink and a CPU fan. Unfortunately, the temperature of the CPU is getting very hot during normal operation. Which of these is most likely the cause of this overheating?

- A. The CPU configuration in the BIOS is misconfigured
- B. The CPU is not the correct type for your motherboard
- C. The amount of thermal paste is insufficient
- D. The processor is faulty

[Jump to Answer](#)

**1-23.** One of your associates has told you that he's added a supervisor password to the BIOS of every computer in the organization. What does the addition of this BIOS password mean?

- A. You can't make changes to the BIOS configuration without the password
- B. You can't boot the computer without the password
- C. You can't add new device drivers without the password
- D. You can't shut down the computer without the password

[Jump to Answer](#)

**1-24.** One of your customers is looking for a MIDI-to-USB interface for her new laptop computer. What is she probably connecting to her PC?

- A. A digital video camera
- B. An analog audio input
- C. An external monitor
- D. An electronic piano keyboard

[Jump to Answer](#)

**1-25.** Which of these would be a best-practice for thermal printer output?

- A. Don't use paper clips on thermal printer output
- B. Don't keep the output in large stacks
- C. Don't put the output near a heat source
- D. Don't store the output in a cardboard or paper folder

[Jump to Answer](#)

# COMP TIA A+ 220-901 - DOMAIN 1.0 - HARDWARE - SHORT ANSWERS

1-1. A.

1-2. C.

1-3. B.

1-4. D.

1-5. D.

1-6. B.

1-7. A.

1-8. B.

1-9. C.

1-10. A.

1-11. D.

1-12. B. and D.

1-13. B.

1-14. C.

1-15. A. and D.

1-16. A.

1-17. C.

1-18. A. and B.

1-19. A.

1-20. D.

1-21. C.

1-22. C.

1-23. A.

1-24. D.

1-25. C.

## COMP TIA A+ 220-901 - DOMAIN 1.0 - HARDWARE - DETAILED ANSWERS

1-1. Which of these connection types would you most commonly associate with NAS?

- A. Ethernet
- B. eSATA
- C. USB
- D. FireWire
- E. Serial

Answer: A. Ethernet

NAS (Network Address Storage) is accessible across the network, so one of the most common NAS connections is over Ethernet.

220-901, Objective 1.11 - Device Connectors and Cables

<http://professormesser.link/220901011102>

[Next Question](#)

**1-2.** If you had four identical drives, which of these RAID types would provide both redundancy and the most available storage space for your data?

- A.** RAID 0
- B.** RAID 1
- C.** RAID 5
- D.** RAID 1 + 0

Answer: C. RAID 5

RAID 0 does not provide redundancy, and RAID 1 and 1+0 are mirroring data and therefore are effectively limiting available storage space by 50%. RAID 5 also provides redundancy, but it only uses the space of a single drive for the redundant parity data. With four drives, this means that RAID 5 would provide data storage that was equal to three of the four disks, or 75% of the total disk space.

220-901, Objective 1.5 - An Overview of RAID

<http://professormesser.link/220901010701>

[Next Question](#)

**1-3.** You have just purchased a new dual-core PC, but when you look at the Windows Task Manager's Performance tab, you see usage statistics for four CPUs. What would be the most likely cause of this difference?

- A.** Dual-core CPUs appear as four separate CPUs in Windows
- B.** The dual-core CPUs are using HTT
- C.** The new computer uses dual-channel memory
- D.** Windows Task Manager is improperly configured

Answer: **B.** The dual-core CPUs are using HTT

Hyper-Threading Technology is designed to allow a single CPU to schedule two processes at the same time, allowing the system to share the workload between both threads. If you view an HTT-enabled CPU in Task Manager, it will appear as if the computer has two or more CPUs for every physical CPU.

220-901, Objective 1.6 - Understanding CPU Characteristics

<http://professormesser.link/220901010701>

[Next Question](#)



**1-4.** What is one of the fundamental characteristics of parity memory?

- A.** Parity memory identifies and corrects errors on the fly
- B.** Parity memory will retry memory transactions until zero errors are identified
- C.** Parity memory can be used on any computer
- D.** Parity memory uses an additional bit to identify errors

Answer: **D.** Parity memory uses an additional bit to identify errors

A computer that supports parity memory will take advantage of an additional bit that can be used to identify errors. Unlike ECC memory, parity memory can identify errors but not correct them.

220-901, Objective 1.3 - Understanding PC Memory

<http://professormesser.link/220901010302>

[Next Question](#)

**1-5.** What software is responsible for starting your computer when power is applied?

- A.** MBR
- B.** NTLDR
- C.** OS Kernel
- D.** BIOS

Answer: **D.** BIOS

Your computer's Basic Input/Output System is firmware that tells your computer how to launch your operating system.

220-901, Objective 1.1 - BIOS and UEFI

<http://professormesser.link/220901010101>

[Next Question](#)

**1-6.** What type of voltages would you commonly expect to find on motherboard's power supply connector?

- A. 120V AC
- B. 12V DC, 5V DC, 3.3V DC**
- C. 12V AC, 5V AC, 3.3V AC
- D. 120V DC

Answer: **B.** 12V DC, 5V DC, 3.3V DC

A computer's power supply provides the motherboard with a number of different DC voltages, usually including 3.3 volts DC, 5 volts DC, and 12 volts DC.

220-901, Objective 1.8 - Computer Power Connectors

<http://professormesser.link/220901010801>

[Next Question](#)

**1-7.** Which of these interface types would you expect to find in a laptop computer?

- A.** Mini PCI
- B.** DIMM
- C.** AGP
- D.** PCI-X

Answer: **A.** Mini PCI

The Mini PCI interface was built specifically for smaller form factors such as laptops and tablets.

220-901, Objective 1.2 - Motherboard Expansion Slots and Bus Speeds

<http://professormesser.link/220901010202>

[Next Question](#)

**1-8.** What 15-pin connector is commonly used to transmit video?

- A.** RCA
- B.** VGA
- C.** DVI
- D.** HDMI

Answer: **B.** VGA

A VGA connector is a three-row 15-pin connector that is commonly used for computer video.

220-901, Objective 1.11 - Display Connectors and Cables

<http://professormesser.link/220901011101>

[Next Question](#)

**1-9.** Which of these best describes NFC?

- A.** Requires line-of-site communication
- B.** Commonly connects devices in an automobile
- C.** Operates at a range of 10 cm or less
- D.** Commonly used with wireless headsets
- E.** Uses light as a transport mechanism

Answer: **C.** Operates at a range of 10 cm or less

NFC (Near Field Communication) is commonly used with payment systems, and it operates best at a very close range of 10 centimeters or less.

220-901, Objective 1.7 - Wireless Interface Speeds and Distances

<http://professormesser.link/220901010702>

[Next Question](#)

**1-10.** What memory type is often used as L1 cache memory?

- A.** SRAM
- B.** DRAM
- C.** SDRAM
- D.** RDRAM

Answer: **A.** SRAM

Static RAM is commonly used for L1, L2, and L3 cache memory.

220-901, Objective 1.3 - An Overview of PC Memory Types

<http://professormesser.link/220901010301>

[Next Question](#)

**1-11.** How does a thermal printer display information on a printed page?

- A.** The printer uses heat and pressure to "fuse" the image to the paper
- B.** A heated print head pulls a small bubble of ink from an ink cartridge
- C.** A small set of pins are heated and pressed onto the page
- D.** Special paper is heated until it changes color
- E.** A set of colored ink rolls are heated until the colors transfer to the paper

Answer: **D.** Special paper is heated until it changes color

Thermal printers don't use any ink or toner because of the special paper used during the printing process. A heating element in the print head applies a small amount of heat, and the paper changes color wherever it's heated.

220-901, Objective 1.14 - Understanding Thermal Printers

<http://professormesser.link/220901011403>

[Next Question](#)



**1-12.** Which of these would be the best example of an output device? Pick two.

- A. Barcode reader
- B. Printer**
- C. Motion sensor
- D. Speaker**
- E. Smart card reader
- F. Webcam

Answer: **B. Printer** and **D. Speaker**

Output devices are printers, speakers, display devices, and any other component that gets data out of a computer.

220-901, Objective 1.12 - An Overview of PC Output Devices

<http://professormesser.link/220901011202>

[Next Question](#)

**1-13.** Your new motherboard comes with four SATA ports. What is the maximum number of SATA devices that it can support?

- A.** Two at any time, using any of the four interfaces
- B.** Four devices
- C.** Eight devices
- D.** The maximum number of devices will be dependent on the SATA speeds of the devices

Answer: **B.** Four devices

SATA connections can only support a single device per interface.

220-901, Objective 1.7 - Computer Interface Speeds and Distances

<http://professormesser.link/220901010701>

[Next Question](#)

**1-14.** Which of these features would not be commonly found in a BIOS?

- A.** Hardware diagnostics
- B.** USB port disabling
- C.** Disk partitioning options
- D.** Date and time settings

Answer: **C.** Disk partitioning options

The BIOS does not provide any partitioning functionality. Although a BIOS will recognize a physical storage device, the logical setup of that storage device is the responsibility of the operating system.

220-901, Objective 1.1 - BIOS and UEFI

<http://professormesser.link/220901010101>

[Next Question](#)

**1-15.** Which of these memory types are designed to detect errors? Pick two.

- A.** ECC
- B.** SDRAM
- C.** DDR
- D.** Parity memory

Answer: **A.** ECC and **D.** Parity memory

Parity memory includes an additional parity bit that helps to identify errors, but it's not designed to correct the error. Error Correcting Code (ECC) Memory can detect and correct memory errors on the fly.

220-901, Objective 1.3 - Understanding PC Memory

<http://professormesser.link/220901010302>

[Next Question](#)

**1-16.** What type of memory is used to improve the performance of CPU instruction processing?

- A.** Cache
- B.** Static
- C.** Hybrid
- D.** SDRAM

Answer: **A.** Cache

A processor's L1, L2, and L3 cache can dramatically increase the number of instructions passing through the CPU.

220-901, Objective 1.6 - Understanding CPU Characteristics

<http://professormesser.link/220901010701>

[Next Question](#)

**1-17.** Which of these best describes digital modulation?

- A.** Listening to an FM radio station
- B.** Playing audio from computer speakers
- C.** Using a modem for Internet connectivity
- D.** Ringing a bell

Answer: **C.** Using a modem for Internet connectivity

Digital modulation is the communication of digital signals over an analog carrier. Converting a digital signal from an analog connection using a modem is a common form of digital modulation.

220-901, Objective 1.7 - Connection Characteristics

<http://professormesser.link/220901010703>

[Next Question](#)

**1-18.** Which of these characteristics would be most important for a CAD/CAM workstation? Pick two.

- A.** Powerful processor
- B.** High-end video
- C.** Enhanced audio
- D.** HDMI interfaces
- E.** TV tuner

Answer: **A.** Powerful processor and **B.** High-end video

A graphical workstation needs a high-end video adapter and plenty of CPU processing. A graphics workstation doesn't require enhanced audio or a TV tuner, and the type of video interface is not a critical consideration.

220-901, Objective 1.9 - Designing Custom Computer Systems

<http://professormesser.link/220901010901>

[Next Question](#)

**1-19.** You've just replaced the SATA hard drive in your desktop PC with an SSD. Which of these changes should you expect? Pick two.

- A.** Access to your data on the SSD should be faster than the hard drive
- B.** The SSD should require more defragmentation than the hard drive
- C.** The SSD should make as much noise as your hard drive when accessing data
- D.** The SSD should have very similar motherboard connections as the existing hard drive interface

Answer: **A.** Access to your data on the SSD should be faster than the hard drive

Solid-state drives are memory-based, so there are no moving parts to slow down the computer or to make additional noise. Most SSDs are SATA connected and do not require any defragmentation. Since writes are limited, most operating systems are smart enough to avoid using unnecessary writes to an SSD.

220-901, Objective 1.5 - An Overview of Storage Devices

<http://professormesser.link/220901010501>

[Next Question](#)



**1-20.** What is the purpose of a CPU cache?

- A.** It increases the clock rate of the CPU
- B.** Improves the overall clock speed of the FSB
- C.** Adds an extra CPU core at each cache layer
- D.** Holds data, instructions, or results for fast retrieval

Answer: **D.** Holds data, instructions, or results for fast retrieval

A CPU cache can make your system appear to run much faster because the efficiency of the data path is improved by holding information in fast cache memory.

220-901, Objective 1.6 - Understanding CPU Characteristics

<http://professormesser.link/220901010701>

[Next Question](#)

**1-21.** Which of these security technology restricts users from making any changes to their hardware configuration?

- A.** Wireless encryption
- B.** Anti-spyware software
- C.** BIOS security
- D.** Biometrics

Answer: **C.** BIOS security

Adding passwords to the BIOS configuration can restrict users from adding or changing any of their system hardware settings.

220-901, Objective 1.1 - BIOS Security

<http://professormesser.link/220901010103>

[Next Question](#)

**1-22.** You have recently upgraded the CPU in one of your servers, including a heat sink and a CPU fan. Unfortunately, the temperature of the CPU is getting very hot during normal operation. Which of these is most likely the cause of this overheating?

- A.** The CPU configuration in the BIOS is misconfigured
- B.** The CPU is not the correct type for your motherboard
- C.** The amount of thermal paste is insufficient
- D.** The processor is faulty

Answer: **C.** The amount of thermal paste is insufficient

The thermal paste creates a thermal connection between a component and a heat sink. Without enough thermal compound, the heat from the component will not properly conduct to the heat sink, and the component will be much hotter than necessary.

220-901, Objective 1.6 - CPU Cooling

<http://professormesser.link/220901010701>

[Next Question](#)

**1-23.** One of your associates has told you that he's added a supervisor password to the BIOS of every computer in the organization. What does the addition of this BIOS password mean?

- A.** You can't make changes to the BIOS configuration without the password
- B.** You can't boot the computer without the password
- C.** You can't add new device drivers without the password
- D.** You can't shut down the computer without the password

Answer: **A.** You can't make changes to the BIOS configuration without the password

The supervisor password restricts access to the BIOS, preventing any hardware additions or configuration changes. The addition of a user password would prevent the system from booting unless you had the correct password.

220-901, Objective 1.1 - BIOS Security  
<http://professormesser.link/220901010103>

[Next Question](#)

**1-24.** One of your customers is looking for a MIDI-to-USB interface for her new laptop computer. What is she probably connecting to her PC?

- A.** A digital video camera
- B.** An analog audio input
- C.** An external monitor
- D.** An electronic piano keyboard

Answer: **D.** An electronic piano keyboard

The Musical Instrument Digital Interface, or MIDI, is a standard digital connection used primarily for musical instruments.

220-901, Objective 1.12 - An Overview of Input and Output Devices

<http://professormesser.link/220901011203>

[Next Question](#)

**1-25.** Which of these would be a best-practice for thermal printer output?

- A.** Don't use paper clips on thermal printer output
- B.** Don't keep the output in large stacks
- C.** Don't put the output near a heat source
- D.** Don't store the output in a cardboard or paper folder

Answer: **C.** Don't put the output near a heat source

Thermal printers operate by heating a portion of a special chemical paper to show the output. If the paper is left in a hot area, the rest of the printout will turn that color and obscure the original output.

220-901, Objective 1.14 - Understanding Thermal Printers

<http://professormesser.link/220901011403>

[Next Question](#)

# COMP TIA 220-901 A+ PERFORMANCE-BASED QUESTIONS

Although most people think of certification exams as a series of multiple-choice questions, many of CompTIA's exams also include a number of performance-based questions. The format of these performance-based questions vary between fill-in-the-blank, matching, scenario-based, or even simulated command-line environments.

These performance-based questions usually appear first in the exam, but I've included them as the last part of this book. This matches one of my most common test-taking strategies, where I recommend that you skip over the performance-based questions, finish all of the multiple-choice questions, and then jump back to the beginning to tackle the performance-based questions as the last thing on the exam.

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**PB-1.** Match the interface name to the picture.

- USB 3.0
- SATA
- VGA
- HDMI

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**PB-2.** You're designing a Home Theater PC. Which of these options would be the best choice to include in this build?

4 GB RAM

16 GB RAM

VGA output

HDMI output

2 TB hard drive

64 GB SSD

Surround sound audio

Liquid cooling system



# COMPTIA 220-901 A+ PERFORMANCE-BASED ANSWERS

PB-1. Match the interface name to the picture.

- USB 3.0
- SATA
- VGA
- HDMI

VGA

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HDMI

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USB 3.0

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SATA

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220-901, Objective 1.11 - Device Connectors and Cables  
<http://professormesser.link/220901011102>

**PB-2.** You're designing a Home Theater PC. Which of these options would be the best choice to include in this build?

- 4 GB RAM
- 16 GB RAM
- VGA output
- HDMI output
- 2 TB hard drive
- 64 GB SSD
- Surround sound audio
- Liquid cooling system

**Answer:**

- 16 GB RAM
- HDMI output
- 2 TB hard drive
- Surround sound audio

A home theater PC needs good audio, video, and plenty of room to store the video content. With this design, a 64 GB SSD wouldn't be large enough for much video storage, and the speed of SSD isn't the primary concern with this particular platform. Surround sound audio and HDMI output would be standard for a home theater PC. Most home theater applications need more memory than a word processor or spreadsheet, so 16 GB would be more appropriate than 4 GB. Although heat is always a concern in any computing platform, a home theater PC only needs to be air cooled with case fans.

Although it wasn't listed in the available hardware options, a home theater PC would also include some type of video tuner or video input so that live television could also be recorded for later viewing.

220-901, Objective 1.9 - Designing Custom Computer Systems

<http://professormesser.link/220901010901>

## ABOUT THE AUTHOR

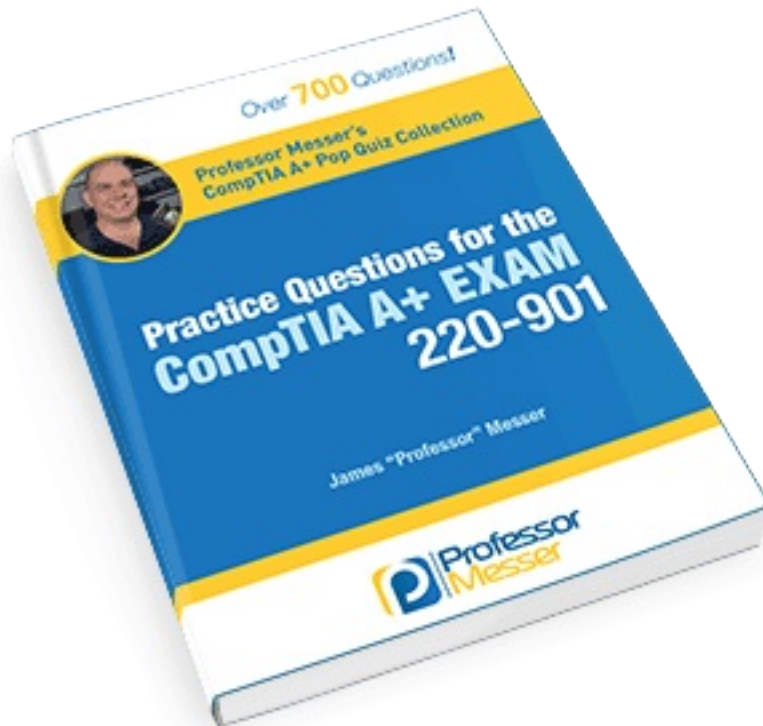
James "Professor" Messer is an author, publisher, and founder of Messer Studios, where he creates online training materials for information technology professionals. His free online video training materials have helped thousands of people around the world become more knowledgeable in information technology.

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