Chapter 8

Troubleshooting Hardware Problems

Reviewing the Basics

1. When you first turn on a computer and you don't hear a spinning drive or fan or see indicator lights, is the problem hardware or software related?

Hardware related

2. What is a Windows error message called that appears on a blue screen?

The blue screen of death or BSOD

3. How many beeps does startup BIOS give to indicate a successful POST?

One beep

4. Which two components in a system might give out a loud whining noise?

The power supply and hard drive

5. What Windows utility can you use to test RAM?

Memory Diagnostics

6. What is the purpose of standoffs installed between the bottom of the case and the motherboard?

To protect the motherboard against a shock

7. If a system hangs after being used for several hours and you suspect overheating, what can you do to easily monitor the CPU and system temperature?

Install temperature monitoring software such as SpeedFan.

8. What are two reasons to tie cables up and out of the way inside a computer case?

So they don't block airflow across the processor or get in the way of fans turning.

9. Why should a tower case not sit on thick carpet?

The carpet might prevent good air flow

10. For most computer cases, does air flow from front to rear or rear to front?

Air flows from front to rear

11. What should you do if you get the POST error "CMOS checksum bad"?

Run BIOS setup and reset BIOS to default settings. If the problem occurs again, try flashing the BIOS.

12. What can you do if a port on the motherboard is faulty and a device requires this type of port?

Disable the port in BIOS and install an expansion card to provide the same type port or connector

13. If you see artifacts on the screen before Windows loads, why can you eliminate the video drivers as the source of the problem?

Because the video drivers are not loaded until after Windows loads.

14. What can you do to stop a computer from repeatedly restarting in a continuous loop?

Press F8 to load the Advanced Boot Options menu. Then select Disable automatic restarts on system failure

15. What is the screen resolution used by VGA mode?

640 x 480

16. What can you do to protect a keyboard that is used in an extremely dusty area?

Use a keyboard cover

17. Why is not a good practice to unpack computer parts immediately after they have been delivered on a cold day?

So that the computer parts are not subjected to condensation and static electricity that can be caused by sudden changes in temperatures.

18. Why is it not a good idea to throw used button batteries in the trash?

Because they contain silver oxide, mercury, lithium, or cadmium and are considered hazardous waste.

19. What device can keep a computer running during a brownout?

An Uninterruptable Power Supply (UPS)

20. How is the best way to get rid of laser printer toner cartridges?

Return them to the manufacturer or dealer to be recycled.

Thinking Critically

1. You upgrade a faulty PCIe video card to a recently-released higher-performing card. Now the user complains that Windows 7 hangs a lot and gives errors. Which is the most likely source of the problem? Which is the least likely source?

   a. Overheating

   b. Windows does not support the new card

   c. The drivers for the card need updating

   d. Memory is faulty

Answer: The most likely source is (c) The drivers for the card need updating. Since the card is recently released, it's unlikely that Windows 7 does not support the card.

Therefore, the least likely source of the problem is (b) Windows does not support the new card.

2. What should you immediately do if you turn on a PC and smell smoke or a burning odor?

   a. Unplug the computer

   b. Dial 911

   c. Find a fire extinguisher

   d. Press a key on the keyboard to enter BIOS setup

Answer: a. Unplug the computer

3. When you boot up a computer and hear a single beep, but the screen is blank, what can you assume is the source of the problem?
   a. The video card or onboard video

   b. The monitor or monitor cable

   c. Windows startup

   d. The processor

Answer: b. The monitor or monitor cable

4. You suspect that a power supply is faulty, but you use a power supply tester to measure its voltage output and find it to be acceptable. Why is it still possible that the power supply may be faulty?

Answer: Because the problem with the power supply might be intermittent

5. Someone asks you for help with a computer that hangs at odd times. You turn it on and work for about 15 minutes, and then the computer freezes and powers down. What do you do first?
   a. Replace the surge protector.

   b. Replace the power supply.

   c. Wait about 30 minutes for the system to cool down and try again.

   d. Install an additional fan.

Answer: c. Wait about 30 minutes for the system to cool down and try again.