Chapter 13

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?
2. What is a Windows error message called that appears on a blue screen?
3. How many beeps does startup BIOS give to indicate a successful POST?
4. Which two components in a system might give out a loud whining noise?
5. What Windows utility can you use to test RAM?
6. What is the purpose of standoffs installed between the bottom of the case and the motherboard?
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?
8. What are two reasons to tie cables up and out of the way inside a computer case?
9. Why should a tower case not sit on thick carpet?
10. For most computer cases, does air flow from front to rear or rear to front?
11. What should you do if you get the POST error “CMOS checksum bad”?
12. What can you do if a port on the motherboard is faulty and a device requires this type of port?
13. If you see artifacts on the screen before Windows loads, why can you eliminate the video drivers as the source of the problem?
14. What can you do to stop a computer from repeatedly restarting in a continuous loop?
15. What is the screen resolution used by VGA mode?
16. What can you do to protect a keyboard that is used in an extremely dusty area?
17. Why is not a good practice to unpack computer parts immediately after they have been delivered on a cold day?
18. Why is it not a good idea to throw used button batteries in the trash?
19. What device can keep a computer running during a brownout?
20. How is the best way to get rid of laser printer toner cartridges?

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?
2. Overheating
3. Windows does not support the new card
4. The drivers for the card need updating
5. Memory is faulty
6. What should you immediately do if you turn on a PC and smell smoke or a burning odor?
7. Unplug the computer
8. Dial 911
9. Find a fire extinguisher
10. Press a key on the keyboard to enter BIOS setup
11. 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?
    1. The video card or onboard video
    2. The monitor or monitor cable
    3. Windows startup
    4. The processor
12. 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?
13. 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?
14. Replace the surge protector.
15. Replace the power supply.
16. Wait about 30 minutes for the system to cool down and try again.
17. Install an additional fan.