1. Two computers are built by different manufacturers. One is running a Web server and the other is running a Web browser. Which of the following best describes the ability of the two computers to communicate with each other across the Internet?

    A. The computers cannot communicate because different manufacturers use different communication protocols.
    B. The computers can communicate, but additional hardware is needed to convert data packets from one computer's protocol to the other computer's protocol.
    C. The computers can communicate directly only if the messages consist of text; other formats cannot be interpreted across computers.
    D. The computers can communicate directly because Internet communication uses standard protocols.

2. Which of the following is a characteristic of the fault-tolerant nature of routing on the Internet?

    A. The ability to use a hierarchical naming system to avoid naming conflicts
    B. The ability to provide data transmission even when some connections have failed
    C. The ability to resolve errors in domain name system (DNS) lookups
    D. The ability to use multiple protocols such as hypertext transfer protocol (HTTP), Internet protocol (IP), and simple mail transfer protocol (SMTP) to transfer data

3. Which of the following best describes the ability of parallel computing solutions to improve efficiency?

    A. Any problem that can be solved sequentially can be solved using a parallel solution in approximately half the time.
    B. Any solution can be broken down into smaller and smaller parallel portions, making the improvement in efficiency theoretically limitless as long as there are enough processors available.
    C. The efficiency of parallel computing solutions is rarely improved over the efficiency of sequential computing solutions.
    D. The efficiency of a solution that can be broken down into parallel portions is still limited by a sequential portion.

4. Both online newspapers and social media sites are used to distribute information on the Internet. Which of the following best describes an advantage that online newspapers have over social media sites?

   A. The ability to distribute information instantaneously
   B. The ability to provide credibility to the information distributed
   C. The ability to provide information that is widely accessible
   D. The ability to provide media-rich content for low cost

5. A city government is attempting to reduce the digital divide between groups with differing access to computing and the Internet. Which of the following activities is LEAST likely to be effective in this purpose?

   A. Holding basic computer classes at community centers
   B. Providing free wireless Internet connections at locations in low-income neighborhoods
   C. Putting all government forms on the city Web site
   D. Requiring that every city school has computers that meet a minimum hardware and software standard

6. A software company is designing a mobile game system that should be able to recognize the faces of people who are playing the game and automatically load their profiles. Which of the following actions is most likely to reduce the possibility of bias in the system?

   A. Testing the system with members of the software company's staff
   B. Testing the system with people of different ages, genders, and ethnicities
   C. Testing the system to make sure that the rules of the game are clearly explained
   D. Testing the system to make sure that players cannot create multiple profiles

7. Which of the following applications is most likely to benefit from the use of crowdsourcing?

   A. An application that allows users to convert measurement units (e.g., inches to centimeters, ounces to liters)
   B. An application that allows users to purchase tickets for a local museum
   C. An application that allows users to compress the pictures on their devices to optimize storage space
   D. An application that allows users to view descriptions and photographs of local landmarks

8. An author is considering publishing an e-book using a Creative Commons license. In which of the following situations would it be better for the author to use a Creative Commons license instead of a traditional copyright?

    I. The author wants to make the e-book available as a free download.

    II. The author wants to prevent people from sharing copies of the e-book on peer-to-peer networks.

    III. The author wants to allow people permission to use and modify the e-book.

    A. I only
    B. II only
    C. I and III
    D. II and III

9. Which of the following is LEAST likely to indicate a phishing attack?

    A. An e-mail from your bank asks you to call the number on your card to verify a transaction
    B. An e-mail from a merchant asks that you click on a link to reset your password
    C. An e-mail from a utility company asks you to enter your date of birth and social security number for verification purposes
    D. An e-mail indicates that you have won a large sum of money and asks you to enter your bank account number so that the money can be transferred to you

10. Which of the following is considered an **unethical** use of computer resources?

    A. Downloading freeware or shareware onto your home computer
    B. Purchasing a game from an app store and downloading it directly to a mobile device
    C. Purchasing a single-user copy of photo editing software and installing it on all the computers in a computer lab
    D. Searching online for an electronic version of a school textbook