

**Skill 14.01 Exercise 1**

Which description of Internet communication is accurate?

- (a) Internet communications are powered by many protocols. One of the most important protocols is the Internet Protocol (IP) since it describes both addressing and routing. Other protocols add layers of functionality on top of that protocol, such as TCP for reliable transmission.
- (b) The Internet Protocol (IP) is the sole protocol used for Internet communication. It includes rules on message formatting, addressing of network nodes, encryption of data, and requesting data from web servers. Adding anything onto the protocol would break the Internet, so communications on the Internet still work exactly the way it did when it was invented.
- (c) Internet communications use a variety of different protocols. Some types of messages are sent using the Internet Protocol (IP). Other messages are sent instead using the formats described by the Transmission Control Protocol (TCP). The computer decides between IP and TCP depending on the use case.
- (d) The Internet Protocol (IP) is the protocol responsible for all aspects of Internet communication. It describes aspects such as addressing, routing, reliability, and security. It is continually improved to add new features that are needed for novel uses of the Internet.

**Skill 14.01 Exercise 2**

Which of these is *not* a protocol that powers the Internet?

- (a) IP   (b) TCP   (c) HTTP   (d) UDP   (e) PII

**Skill 14.02 Exercise 1**

When a computer loads a webpage, it sends a message to a web server over the Internet.  
Indicate a possible protocol stack for this process.

**Skill 14.04 Exercise 1**

The following passage describes the Internet but contains a missing adjective:

The Internet is built on a stack of communication protocols that are standardized and <???.>. As a result, any computer can communicate with other computers on the Internet, without needing to apply for a license from a company.

What is the most appropriate adjective to replace <???.>?

**Skill 14.04 Exercise 2**

Which of these are a requirement for a computing device to access the Internet?

- I. The ability to connect that computing device to another Internet-connected device
- II. Registration of the device with ICANN (Internet Corporation for Assigned Names and Numbers)
- III. A physical connection that is capable of at least 25 kbps bandwidth

**Skill 14.05 Exercise 1**

The Internet Protocol (IP) includes a rule that each message must include a source IP address and a destination IP address.

What are the likely consequences of a computer sending a message that does not follow that IP rule?

- I. The administrator of the device will receive a message from the Internet Protocol Authority (IPA) reminding them of the proper addressing format.
- II. The message will arrive at its destination more slowly since it will be forced to travel along slower network connections for violating the rules.
- III. The message may not arrive at its destination at all.

**Skill 14.05 Exercise 2**

Which of the following best describes the role of the Internet Engineering Task Force (IETF)?

- (a) Developing standards and protocols for Internet communication
- (b) Preventing copyrighted materials from being illegally distributed online
- (c) Preventing malicious software from being distributed online
- (d) Verifying the ownership of encrypted keys used in secured messages

**Skill 14.05 Exercise 3**

Which of the following explains a benefit of using open standards and protocols for Internet communication?

- (a) Open standards and protocols allow different manufacturers and developers to build hardware and software that can communicate with hardware and software on the rest of the network.
- (b) Open standards and protocols provide ways for users to eliminate the latency of messages they send on the Internet.
- (c) Open standards and protocols allow users to freely share or reuse material found on the Internet for noncommercial purposes.
- (d) Open standards and protocols prevent developers from releasing software that contains errors.