

# CP1402/CP5631 - Wireless and VLANs Review

Work through the following questions in groups.

## Wireless

1. What is the difference between an ad hoc WLAN and an infrastructure WLAN?

In infrastructure mode, all devices on a wireless network communicate with each other through an access point (wireless router).

In ad hoc mode, a computer with a wireless network adapter communicates directly with a printer equipped with a wireless print server.

2. Compare and contrast CSMA/CD, used by Ethernet, and CSMA/CA, used by Wi-Fi.

CSMA/CD	CSMA/CA
Carrier Sense Multiple Access / Collision Detection	Carrier Sense Multiple Access / Collision Avoidance
a network protocol for carrier transmission	a network protocol for carrier transmission
CSMA/CD is operated in the medium access control layer.	CSMA/CD is operated in the medium access control layer.
CSMA/CD is effective after a collision.	CSMA/CA is effective before a collision.
CSMA/CD is used in wired networks.	CSMA/CA is commonly used in wireless networks.
CSMA/CD only reduces the recovery time.	CSMA/CA minimizes the possibility of collision.
CSMA / CD resends the data frame whenever a conflict occurs.	CSMA/CA will first transmit the intent to send for data transmission.
CSMA/CD is used in 802.3 standard.	CSMA/CA is used in 802.11 standard.

3. What are war driving and war chalking?

**War driving** – a hacker searches for unprotected wireless networks by driving around with a laptop configured to receive and capture wireless data transmissions

**War chalking** – hackers draw symbols with chalk on the sidewalk or wall near a vulnerable AP to make it known to other hackers.

4. Explain geofencing.

A geofence is “A virtual boundary around a real-world geographic area. The use of a geofence is called geofencing, and one example of use involves a location-aware device such as a smartphone user entering or exiting a geofence, triggering an alert to the device’s user.”

5. What is the different between WPA and WPS attacks? Explain.

WPA attack

- involves an interception of the network keys communicated between stations and APs
- Also called WPA cracking

WPS attack

- involves cracking a PIN in order to access an APs settings
- The pin can be easily cracked through a brute force attack

6. What are criteria when deciding where to install an access point?

Home or small office network, called a SOHO network, might call for only one access point

A site survey assesses client requirements, facility characteristics, coverage areas

A site survey will help determine access point arrangement ensuring reliable wireless connectivity within a given area

A thorough site survey might include:

- Studying building blueprints to identify potential obstacles
- Consider whether Wi-Fi access points will be used as wireless bridges to create remote wired access to the network
- Determine whether certain floors require multiple APs
- Measure the signal coverage and strength from other WLANs
- Test proposed access point locations
- Test wireless access from the farthest corners of your space
- Consider the materials used in objects that aren't always present in the environment
- Consider how the wireless portions of the LAN will integrate with the wired portions

1. Match the following terms with their descriptions:

**Reflection**  
**Diffraction**  
**Scattering**

signals split into secondary waves  
signals diffuse in multiple different directions  
signals reflect to their source

**Reflection:** signals reflect to their source

**Diffraction:** signals split into secondary waves

**Scattering:** signals diffuse in multiple different directions

## VLANs

1. True or false:

- |  |   |
|--|---|
| a. VLANs divide networks into multiple broadcast domains.            | T |
| b. Packets must be routed to move between VLANs.                     | F |
| c. Frames receive an <b>802.1Q tag</b> to distinguish between VLANs. | T |
| d. TCP must be configured to work correctly over VLANs.              | F |
| e. Both managed and unmanaged switches can create VLANs.             | F |

2. Which ports are used to carry frames from multiple VLANs?

- a. Access
- b. Multiplex
- c. Polymorphic
- d. Trunk

Answer:

d Trunk