Q1.

DHCP Discover - Client pinging out to find if DHCP server

DHCP Offer - Sever reveals itself and makes an IP offer

DHCP Request - Asks server if there is any other devices on network with same IP address, if no other device responds with the same IP it sends an acceptance

DHCP ACK - Server response to request, binds IP and gives to requesting device

2.

3.
Might be because the client has not yet had an IP assigned to it yet at this point. Or the source is localhost and just showing that as the source IP

UDP

Port 68 source, port 67 destination

```
∨ Ethernet II, Src: LinksysG_da:af:73 (00:06:25:da:af:73), Dst: Broadcast (ff:ff:ff:ff:ff:ff)
  > Destination: Broadcast (ff:ff:ff:ff:ff:ff)
  > Source: LinksysG_da:af:73 (00:06:25:da:af:73)
    Type: IPv4 (0x0800)
```

4. 255.255.255.255
5.
255.255.255.0
192.168.0.1
DNS 63.240.76.19
1 day
ne2.client2.attbi.com

6.
How long the IP address or domain will remain available to the current device, before it has to re-engage to keep it

7.
192.168.1.101

Q2.

2.
ARP is used to translate an IP to a MAC address

3.
00:08:74:4f:36:23

Part 2

1. Source 192.168.0.102 Destination 192.119.245.12
2. TCP
3. Source port 4127 Destination port 80
4. Test
a. Request URI: /ethereal-labs/lab2-1.html
b. Request Version: HTTP/1.1
c. User-Agent: Mozilla/5.0 (Windows; U; Windows NT 5.1; en-US; rv:1.0.2) Gecko/20021120 Netscape/7.01\r\n
d. Host - specifies the hostname and port number of the server that the client is connecting to. Accept - Determines what content to send back to the client. Keep-Alive - Determines if the connection between server and client should stay connected. Connection - Specifies the type of connection should use

6.
a. Server: Apache/2.0.40 (Red Hat Linux)\r\n
b. Linux machine
c. Content-Length: 73 - Indicates size of the message body sent to the client

5.4 DNS

1. Source 128.238.38.160 Destination 128.238.29.23
2. UDP
3. Source Port 3163 Destination Port 53
4. Name: www.ietf.org
5. 2 Asnwers, Domain names
   - Time to live: 1678 (27 minutes, 58 seconds)

DNS part 2
- Asking to resolve Name: 22.29.238.128.in-addr.arpa
- Answers with Domain Name: dns-prime.poly.edu
- Asking Domain Name: dns-prime.poly.edu
- Not successful, no such name
- Responsible for Name: poly.edu