1. Read the class notes first, then fill in the blanks:

A computer (in the most general sense) connected to the internet is called a _________.

When communicating on the internet (without DNS name resolution), the ________ to which data is to be sent is identified by its _________. Data to be sent across the internet is broken up into small chunks which, together with the address of the recipient, forms what are called _________.

2. When we refer to "host 131.122.20.12", what do the four dot-separated numbers represent? Circle the letter(s) of the correct answer(s):

(a) the contents of the four bits that make up the host's IP address.
(b) the contents of the four bytes that make up the host's IP address.
(c) the ASCII encodings of the four characters comprising the host's name.
(d) the ASCII encodings of the digits comprising the host's IP address.

3. To the right you see output from `ipconfig` and `tracert` commands. Below you see number of dots representing hosts on the internet. In the shell window: draw a circle around the IP address of the host that these commands have been executed on, and draw a square around the IP of the host that's the destination for the `tracert` command. Below: draw lines to indicate the path that, according to the `tracert` output, a packet takes from the source host to the destination host.
4. Fill in the following table:

<table>
<thead>
<tr>
<th>host name</th>
<th>IP address</th>
</tr>
</thead>
<tbody>
<tr>
<td>macallan.cs.usna.edu</td>
<td>↦ 193.170.37.138</td>
</tr>
<tr>
<td><a href="http://www.usna.edu">www.usna.edu</a></td>
<td>↦ 10.1.78.32</td>
</tr>
</tbody>
</table>

5. An IPv4 address is _____ bits. An IPv6 address is _____ bits.

6. Consider the following nslookup command and output:

```
C:\Users\wcbrown.ACADEMY>nslookup www.foobar.org
Server:  ns1.usna.edu
Address:  10.1.74.10
Non-authoritative answer:
Name:    www.netability.ie
Address:  2a03:8900:0:100::5
         46.182.8.5
Aliases:  www.foobar.org
```

5. When you enter the URL http://www.goarmysports.com/index.html into your browser's address bar, what server gets contacted before the browser sends the GET request to the goarmysports webserver?

7. Domain names are hierarchical. What part of rona's domain name is common to the domain names of all hosts at the Academy?

8. The course notes for this lesson include a few xkcd comics. The one with the campfire refers to the “192.168/16 block” of IP addresses. Use your Internet searching skills to look up 192.168/16 and explain what’s special about addresses of the form 192.168.*.* and, ultimately, what’s the joke with this comic?