1. 430/3 = 143r1 → 43/3 = 47r2 → 47/3 = 15r2 → 15/3 = 5r0 → 5/3 = 1r2 → 1/3 = 0r1.
   Leading us to have 120221 as the base 3 of the 430 of base 10.

2. $5^0 * 0 + 5^1 * 3 + 5^2 * 4 = 115$

3. $8^0 * 0 + 8^1 * 3 + 8^2 * 4 = 280$ base 10. To get the hexadecimal of the 280 base 10 we then do: 280/16 = 17r8 → 17/16 = 1r1 → 1/16 = 0r1. Therefore, 118 to base of 16 is equal to 430 of base 8.

4.   01010011 +
        01100110 +
        01110100
     = 0100101101

5. 2018 of base 10 can be converted into base 2 as following:
   2018/2 = 1009r0 → 1009/2 = 504r1 → 504/2 = 252r0 → 252/2 = 126r0 → 126/2 = 63r0 → 63/2 = 31r1 → 31/2 = 15r1 → 15/2 = 7r1 → 7/2 = 3r1 → 3/2 = 1r1 → 1/2 = 0r1
   Which gives us 11111100010 of base 2.

   1861 of base 10 can be converted into base 2 as following:
   1861/2 = 930r1 → 930/2 = 465r0 → 465/2 = 232r1 → 232/2 = 116r0 → 116/2 = 58r0 → 58/2 = 29r0 → 29/2 = 14r1 → 14/2 = 7r0 → 7/2 = 3r1 → 3/2 = 1r1 → 1/2 = 0r1
   Which gives us 11101000101 of base 2.

   1's Complement = 00010111010 → 2's Complement = 00010111011

           11111100010 +
           00010111011
       =   10011101

   The addition itself would result in 100010011101, but we dropped the leftmost bit of value 1, giving us 10011101, which is equal to 157, where 2018 – 1861 = 157.

6. By filtering the file in Wireshark using the following expression: "ip.src == 192.168.1.6 && dns.qry.type == 28", 4 requests were found to resolve type AAAA. Afterwards, I decided to do filter using the expression: "dns.qry.type == 28", which showed me in total, there were 8 requests in total, 4 from IPv4 source and 4 from IPv6 source. There were no responses at all.

7. By filtering using the expression: "dns.qry.name matches "www.paypal.com" && dns.a", www.paypal.com was found to resolve to the IP addresses of 23.13.82.234 and 23.196.228.157.

8. By filtering using "dns.resp.ttl", the largest DNS TTL value is 7196 in a query to go.microsoft.com.

9. By filtering using "dns.count.answers", the largest number of answers received in a single response was 11 from a response from ocsp2.globalsign.com.

10. By filtering using "dns.qry.name.len", the longest domain name being resolved is settings-win.data.microsoft.com.