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.

1. 5^0 \* 0 + 5^1 \* 3 + 5^2 \* 4 = 115
2. 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.
3. 01010011 +

01100110 +

01110100

= 0100101101

1. 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 11111100010of 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 11101000101of 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.

1. 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.
2. By filtering using the expression: “dns.qry.name matches "www.paypal.com" && dns.a”, [www.paypal.com](http://www.paypal.com) was found to resolve to the IP addresses of 23.13.82.234 and 23.196.228.157.
3. By filtering using “dns.resp.ttl”, the largest DNS TTL value is 7196 in a query to go.microsoft.com.
4. 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.
5. By filtering using “dns.qry.name.len”, the longest domain name being resolved is settings-win.data.microsoft.com.