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Exercises lab 1 DVGB02

1. Transmission time: 1 Mb * 8 = 8 Mbit
   8 Mbit / 1 Mbps = 8 sec
   Propagation delay: $1000/2*10^5$ = 5 ms
   8000ms + 5ms = **8005ms**

2. Propagation delay: 20ms
   Transmission time: 2 Kbytes = 16 Kbit = 0.016 Mbit
   0.016 Mbit / 10 Mbps = 1.6ms
   Propagation + Transmission = 20ms + 1.6ms = **21.6ms**

3. a) **1 Mbps** (weakest link in the chain)
   b) 5ms + 10ms + 5ms = **20ms**
   c) It's **still 1 Mbps** because you're bottlenecked by the weakest link (the connections between the computers and routers).

4. **Cookies** are sent from the web server and stored client-side, and the client sends the cookie back to the web server when requesting a page. The cookie can include a unique identifier which lets the web server know who they're talking to.

5. An email address contains a domain, but also includes a username @ it.

6. Retransmissions are up to the transmission layer and are a part of the TCP protocol, and not HTTP which is on the application layer.

7. You need to have a mail server (what if the client is offline? You don't want to lose emails). (Think of it as a post office? Maybe?)

8. No, that is just a subdomain and can be anything. An example can be rfa.mnpn.dev :^) or git.cse.kau.se.