Homework 1
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6. For the digital stream, it takes $\frac{56}{65536}$ seconds until there are enough bytes to make a packet. Once the packet is created it takes $\left(\frac{1}{2\,\text{Mbps}}\right) \times 56$ bytes along with the 10 millisecond propagation delay, which is a total of 11.068 milliseconds.

9. (a) $\frac{1\,\text{Gbps}}{100\,\text{kbps}} = 10485$ Users.

   (b) Using simple algebra we can use $p \times M = N$ to see that $p = \frac{N}{M}$.

11. $\frac{1}{2\,\text{Mbps}} \times \left(4.5\,\text{packets} \times 1500 \frac{\text{bytes}}{\text{packet}}\right) = 25.749\,\text{milliseconds}$. More generally, $\frac{1}{R} \times \left(\left(n + \frac{x}{L}\right) \times L\right)$ is the queueing delay.

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