

Assignment 1

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Problem 6

a

$$d_{prop} = m/s$$

b

$$d_{trans} = L/R$$

c

The end-to-end delay will be d_{total} . Then $d_{total} = d_{prop} + d_{trans}$

d

At time $t = d_{trans}$ the last bit of the packet will be being transmitted from Host A.

e

If $d_{prop} > d_{trans}$ then at time $t = d_{trans}$ the first bit will be at $d_{trans} \times s$ meters.

f

if $d_{prop} < d_{trans}$ then at time $t = d_{trans}$ the first bit will have arrived at Host B already.

g

If

$$d_{trans} = L/R = 120/56000 = 3/1400$$

then

$$d_{prop} = 3/1400.$$

Because

$$d_{prop} = m/s \Rightarrow m = d_{prop} \times s$$

then

$$m = (3/1400) \times 2.5 \times 10^8 = 535,714.28571428571428571429 \text{meters}$$