

Math Basics in Networking

Due Feb 14 at 11:59pm

Points 7

Questions 7

Time Limit None

Instructions

There are 7 questions for your to fill in your answer. Marking will be based on string match!

So, if you want to answer A divided by b, use 'A/b', not 'A / b' or 'a/b', etc...

If you want to answer 1200, use '1200', not '1,200' or '1.2k'

Attempt History

	Attempt	Time	Score
LATEST	Attempt 1	2 minutes	7 out of 7

Score for this quiz: **7** out of 7

Submitted Feb 12 at 5:15pm

This attempt took 2 minutes.

Question 1

1 / 1 pts

Consider two hosts A and B, connected by a single link of rate R bps. Suppose that the two hosts are separated by m meters, and the propagation speed along the link is s meters/sec. Host A is to send a packet of size L bits to Host B.

1. Express the propagation delay, d_{prop} , in terms of m and s (assuming unit is seconds)

Correct!

m/s

Correct Answers

m/s

m / s

m/ s

m /s

Question 2**1 / 1 pts**

Consider two hosts A and B, connected by a single link of rate R bps. Suppose that the two hosts are separated by m meters, and the propagation speed along the link is s meters/sec. Host A is to send a packet of size L bits to Host B.

2. Determine the transmission time of the packet, d_{trans} , in terms of L and R (assuming unit is seconds).

Correct!

L/R

Correct Answers

L/R

L / R

L/ R

L /R

Question 3**1 / 1 pts**

Consider two hosts A and B, connected by a single link of rate R bps. Suppose that the two hosts are separated by m meters, and the propagation speed along the link is s meters/sec. Host A is to send a packet of size L bits to Host B.

3. Ignoring processing and queuing delays, obtain an expression for the end-to-end delay.

Correct!

L/R+m/s

Correct Answers

m/s + L/R

m/s+L/R

m/s+ L/R

m/s +L/R

L/R + m/s

L/R+m/s

L/R +m/s

L/R+ m/s

(L/R)+(m/s)

(m/s)+(L/R)

(L/R) + (m/s)

(m/s) + (L/R)

Question 4**1 / 1 pts**

Consider two hosts A and B, connected by a single link of rate R bps. Suppose that the two hosts are separated by m meters, and the propagation speed along the link is s meters/sec. Host A is to send a packet of size L bits to Host B.

4. Suppose Host A begins to transmit the packet at time $t = 0$. At time $t = d_{trans}$, where is the last bit of the packet?

Correct!
☒ The bit is just leaving Host A

☐ The bit is in the link and has not reached Host B

☐ The bit has reached Host B

Question 5**1 / 1 pts**

Consider two hosts A and B, connected by a single link of rate R bps. Suppose that the two hosts are separated by m meters, and the propagation speed along the link is s meters/sec. Host A is to send a packet of size L bits to Host B.

5. Suppose d_{prop} is greater than d_{trans} . At time $t = d_{trans}$, where is the first bit of the packet?

- ☐ The bit is just leaving Host A
- ☒ The bit is in the link and has not reached Host B
- ☐ The bit has reached Host B

Correct!**Question 6****1 / 1 pts**

Consider two hosts A and B, connected by a single link of rate R bps. Suppose that the two hosts are separated by m meters, and the propagation speed along the link is s meters/sec. Host A is to send a packet of size L bits to Host B.

6. Suppose d_{prop} is less than d_{trans} . At time $t = d_{trans}$, where is the first bit of the packet?

- ☐ The bit is just leaving Host A
- ☐ The bit is in the link and has not reached Host B
- ☒ The bit has reached Host B

Correct!

Question 7**1 / 1 pts**

Consider two hosts A and B, connected by a single link of rate R bps. Suppose that the two hosts are separated by m meters, and the propagation speed along the link is s meters/sec. Host A is to send a packet of size L bits to Host B.

7. Suppose $s = 2.5 \times 10^8$, $L = 120$ bits, and $R = 56$ kbps. What is the distance m so that d_{prop} equals d_{trans} (assuming unit is km, round up to an integer answer)?

Correct!

536

Correct Answers

536

$$m = Ls/R = 120 * (2.5 \times 10^8) / (56 \times 10^3) = 536$$

Quiz Score: 7 out of 7