

You have 10 minutes to complete this quiz.

Name: _____

RIT Username: _____

Problem	Possible	Score
1	10	
2	10	
Total	20	

1. State **two** reasons why broadcast Ethernet, where all hosts on the network share one single wire and CSMA/CD (carrier sense multiple access/collision detect) is used to arbitrate media access among the hosts, cannot support (1) a large number of hosts, or (2) hosts spread across a large geographic area. (10 pts)

With broadcast Ethernet, a large number of hosts cannot be supported as it is a single collision domain (i.e., only a single host can broadcast at once). A large geographic area cannot be supported, as the Ethernet would have to have a very large minimum frame size.

2. Calculate the maximum cable length in 10 Mbps Ethernet environment. (assume that the light speed is 3.0×10^8 m/s) (10 pts)

$$(64 \times 8) \text{ bit} \times (3 \times 10^8 \text{ m/sec}) / (2 \times 10^7 \text{ bit/sec}) = 7680 \text{ m}$$