How To Solve Problems About Delays

Network Computing (CS3171)

① Read the question carefully

- What are you asked to do (or to solve for)?
- What information are you given?

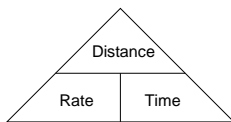   write down all values in a standard notation

② Draw a time-distance diagram

- Label the delays (propagation, transmission, processing, etc.)
- Make sure you understand the diagram and that it includes all the necessary parts

③ Determine what question(s) you are being asked

④ Apply the correct formulae

- Convert to the same units before any other computations
- Remember

$$\text{distance} = \text{rate} \times \text{time}$$
$$\text{rate} = \text{distance}/\text{time}$$
$$\text{time} = \text{distance}/\text{rate}$$

- distance in the above is different for transmission and propagation
    - in transmission: distance is size (or length) in bits
    - in propagation: distance is physical length of the link

⑤ Check that units cancel appropriately

    as a way to check your answer