Name: ID: Section:

In the dim glow of the Borderland server room, Arisu and Usagi are told to load the same web page under different rules. The connection gate takes **20 seconds** just to open, and another **22 seconds** to receive an HTTP response. The base HTML shell is **2 MB**, hiding **25 more objects** (**7 images of 40 MB** and **18 videos of 100 Mb each)**. The server barely pushes data at **8 Mbps while downloading the images, but for other objects the speed is reduced by one third**. Arisu is allowed to open **only one connection** and reuse it for everything, while Usagi must open a **new connection for each object**. It took Arisu N seconds and Usagi M seconds respectively to load the webpage.

I.   Calculate the **total round-trip time** for loading the HTML Page.
II.   Compute the **total time required** to fetch the HTML page.
III.   **State**, if the statement **N-M = 24 * TCP RTT is true. Show** detailed calculation

Name: ID: Section:

In the dim glow of the Borderland server room, Arisu and Usagi are told to load the same web page under different rules. The connection gate takes **20 seconds** just to open, and another **22 seconds** to receive an HTTP response. The base HTML shell is **2 MB**, hiding **26 more objects** (**8 images of 80 MB** and **18 videos of 100 Mb each)**. The server barely pushes data at **8 Mbps while downloading the images, but for other objects the speed increased by one third**. Arisu is allowed to open **only one connection** and reuse it for everything, while Usagi must open a **new connection for each object**. It took Arisu M seconds and Usagi N seconds respectively to load the webpage.

IV.   Calculate the **total round-trip time** for loading the HTML Page.
V.   Compute the **total time required** to fetch the HTML page.
VI.   **State**, if the statement **N-M = 24 * TCP RTT is true. Show** detailed calculation