Consider the following line scan camera:
Device "1": sensor of **2048 points**, each point of **4.2 micron * 4.2 micron**, able to acquire up to **30.000 lines per second**, price **450 euro**.

and the matricial device:
Device "2": sensor of 2048*2560 points of 2.6 micron * 2.6 micron

A) Define **two setups** for analysing objects having a **surface of 2.0 m * 2.4 m** at a resolution of **at least 1 pixel / mm** (both along X and along Y) in terms of any additional device needed for the acquisition set up.

B) Define the ideal focal length for both the set up, in case we have to adopt a working distance in the range 2 m – 3 m

Suppose now, that both the devices mounted simultaneously over the same scene.

C) Which is the fastest speed that can act over the object for being correctly acquired by both the set ups?
D) Which is the shortest shutter time of the matricial camera, in case we do not want motion effect greater than 1 pixel?

At the end of your work, resume the required answer in a short list like this one:

A device 1: ……

A device 2: ……

B device 1: ……..

B device 2:……..

C: ……..

D: ……..