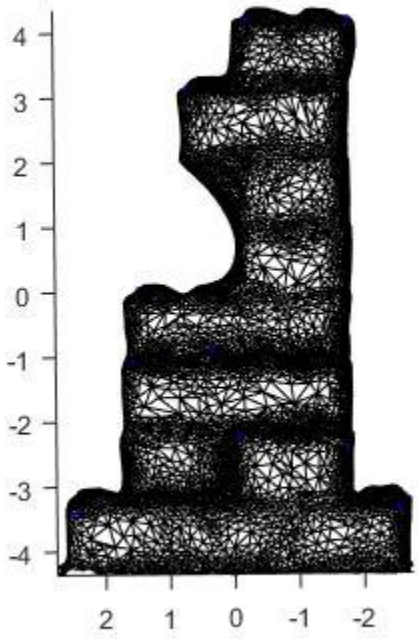
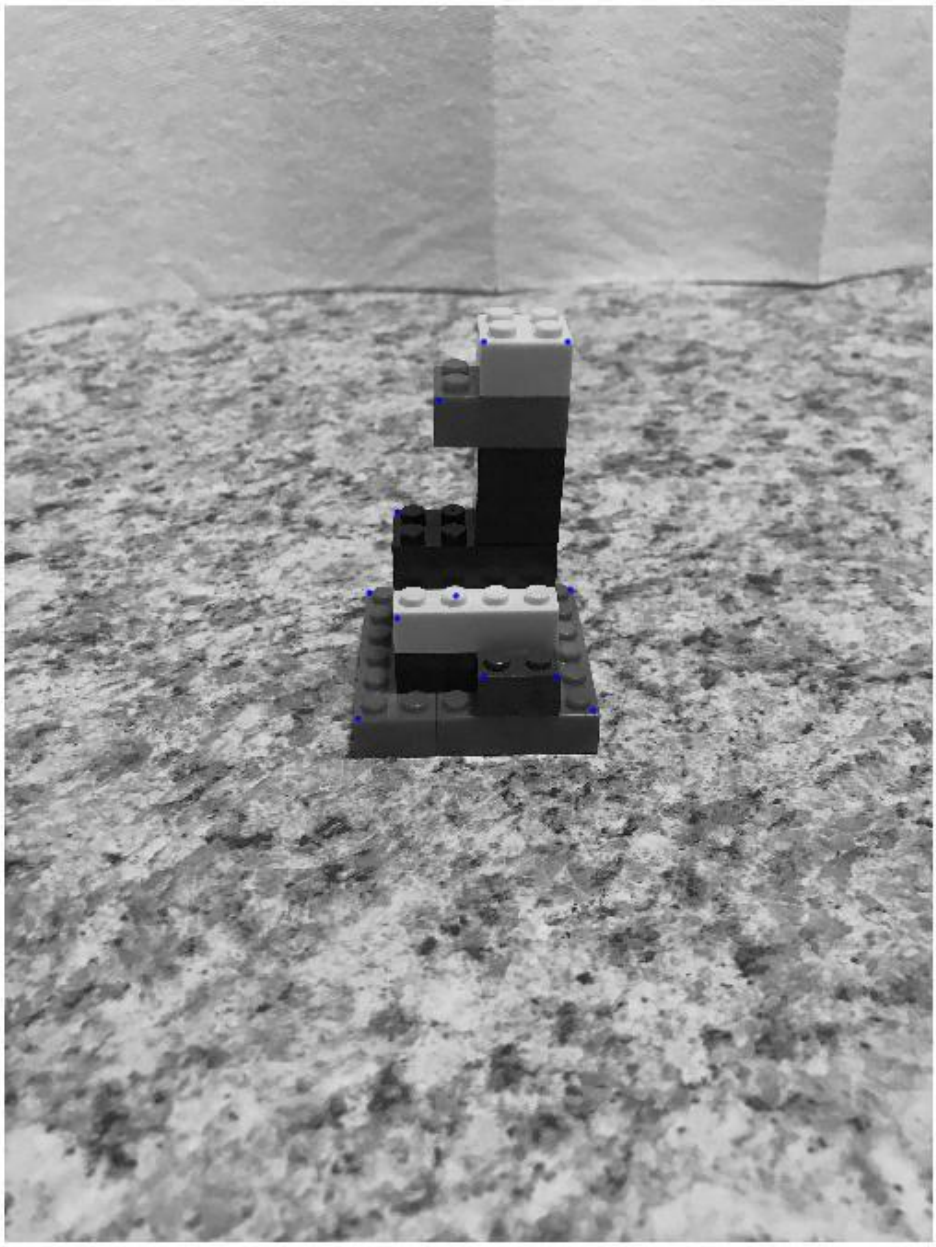
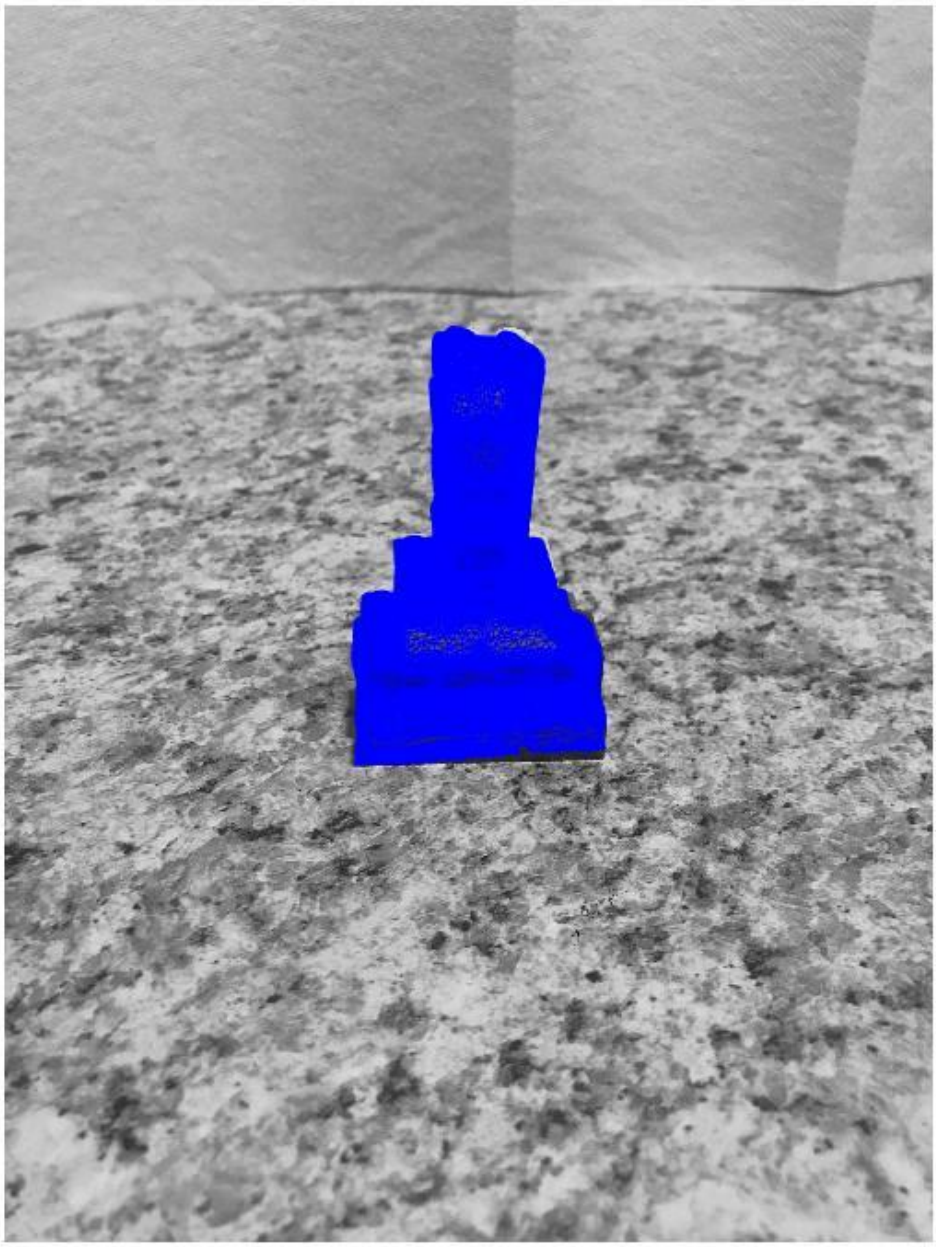
Part 1:

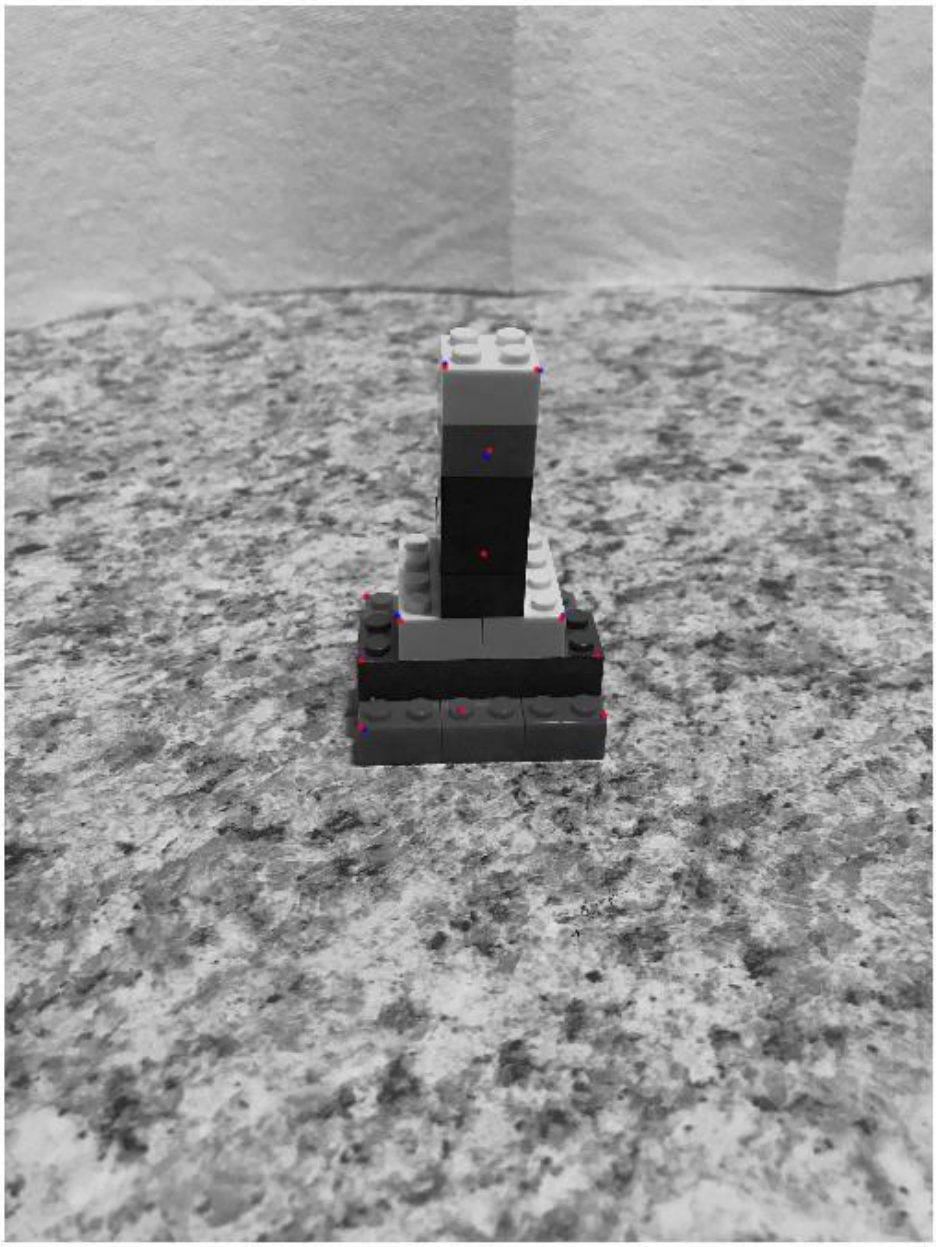




This is the image with my clicks in blue.



Here is the image overlaid with the mesh



Here is the image with my original clicks in blue along with the transformed 3d object clicks in red. The error here using the average for the sum of squares was 3.0229.

Part 2

My matrix value I got for K using the lego as well as the lego object was

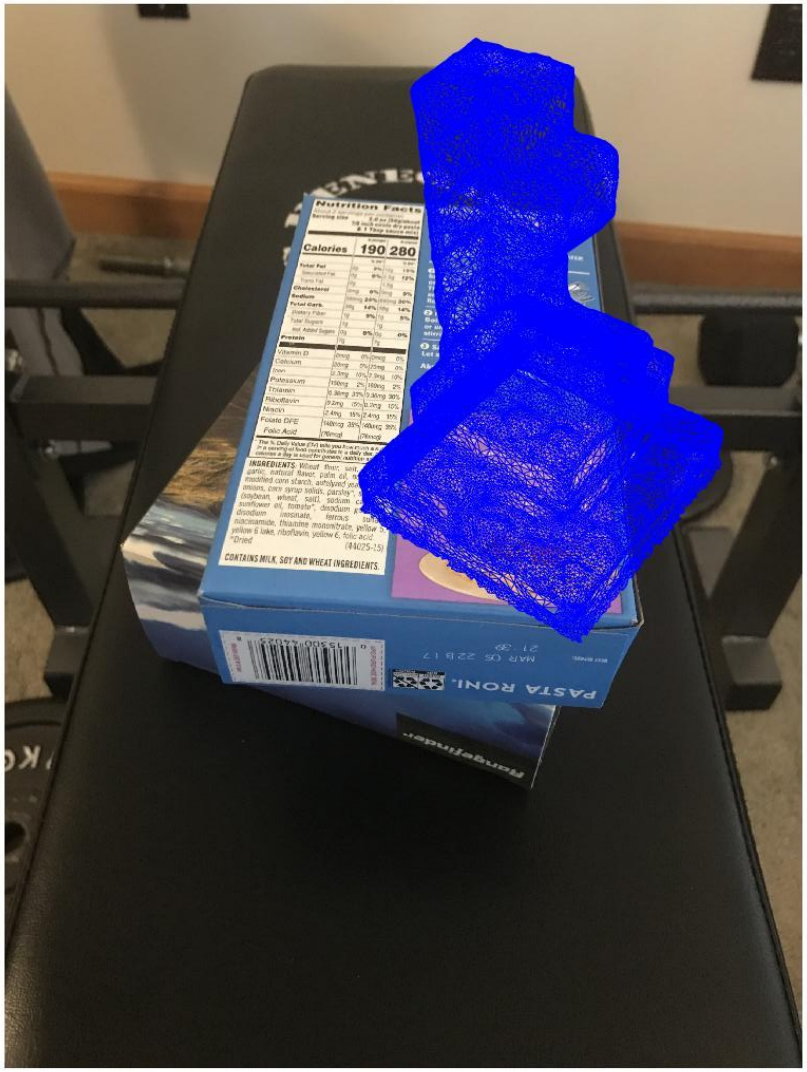
2497 33 1953
0 2403 2053
0 0 1

Which seemed pretty accurate for the focal length as they were close. The location of the camera center in y was off by a pretty large amount.

In the checker board the focal lengths were fairly different, also the camera center was much more accurate. Since there were so many more pictures in the checkerboard case I assume that is why it was more accurate. The K for the checkerboard was.

3572 0 1993
0 3563 1460
0 0 1

Part 3


Nutrition Facts
Calories
190 280
INGREDIENTS:
CONTAINS MILK, SOY AND WHEAT INGREDIENTS.
PASTA RONI
Rangefinder

Here are the three images from the checkerboard K matrix. These are larger and the mesh seems to be more spread out. I assume that's from the different focal length in this matrix. They are also displayed slightly off center because I centered the meshes I got with my k value and the centers were different in each matrix.


PASTA STOVE TOP DIRECTIONS
WHAT YOU NEED
MAKE IT A MEAL
CONTAINS MILK, SOY AND WHEAT
PASTA RONI


Supplement Facts

These were the meshes with my K value .

Here is the lighting image