Problem 4 solution:

Image TBA if I can get to it. I'm not sure if I have time to import the sketch or redraw. Basically it is an application of this procedure.

- Find the two vanishing points V and W of the street directions.
- This determines the horizon, that is, the vanishing line of the ground. It is probably horizontal because it looks like the picture is in two-point perspective.
- Find the two diagonal vanishing points D_L and D_R (use the corner tile to do this, for example). These are intersections of the diagonals with the horizon.
- If you named V and W in left to right order, then these four appear in the order D_L, V, D_R, W (because in the drawing you can see that the diagonal that is almost parallel to the horizon meets it far to the left).
- Construct circles C_1 and C_2 with respective diameters $D_L D_R$ and VW. They meet at points X and Y, one below the horizon and one above. Pick one, say X, it doesn't matter. The perpendicular from X to the horizon hits the horizon at the viewing target, T.
- The distance $|XT|$ is the viewing distance.