Pop Quiz [10 mins]

Name: ____________________________

Student ID: ________________________

1- [3] What are the steps of graphic pipeline?

Geometric Transformation
Clipping and Vertex interpolation
Rasterization and pixel interpolation

2- [4] What the steps of geometric transformation?

Model Transformation
View Transformation
Perspective Projection
Window Coordinate Transformation

3- [3] The 3D coordinate of two point P₁ and P₂ are (2,3,2) and (4,5,4). The 2D position of these two points in the screen space are (100,100) and (100,200). What is the depth (Z) of point P₃ which has the 2D coordinate (100,120) on the screen?

For interpolating the depth in screen space we should use following equation:

\[
\frac{1}{Z} = \frac{1}{Z_1} \times u + \frac{1}{Z_2} \times (1 - u)
\]

So we have

\[
\frac{1}{Z} = \frac{1}{2} \times \frac{4}{5} + \frac{1}{4} \times \frac{1}{5}
\]