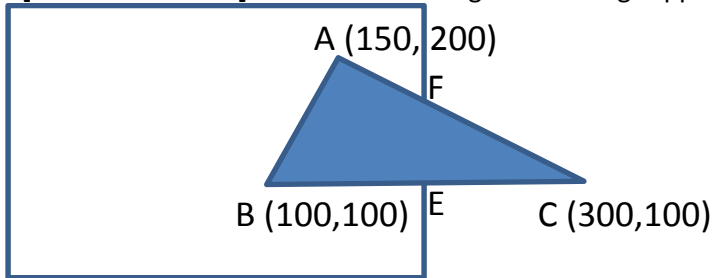


## Pop Quiz (Week 8) [20 mins] – 20 pts

Name: \_\_\_\_\_ Student ID: \_\_\_\_\_

**Please show your work for partial credits.**

- 1) [13=1+3+2+2+3+2] Consider the triangle ABC being clipped at E and F.



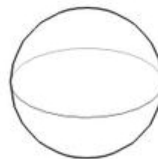
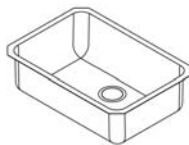
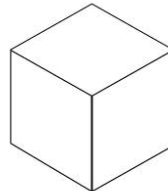
- If E is the middle point of BC, what is the x-max of the window?
- Using the computed x-max, find the interpolation coefficients (the weights for A and B) for F?
- Using these interpolation coefficients, find the 2D coordinates of F?
- If the grayscale colors at A and C are 120 and 60 respectively, what will be the interpolated grayscale value at F?

e) If the Z-value at A and C are 30 and 60 respectively, what is interpolated depth at F?

f) When rendering F, you find that the depth buffer at that point is set at 40. Would F get drawn or not? Provide **one line** justification of your answer.

2) [7=3+2+2] On the left you see models that you would like to texture map. On the right you see the choice of intermediate geometry you have.

a. Find the matching intermediate geometry that you have to use for each of the objects in the left.



b. Using the right intermediate geometry helps in  
i. Proper sampling of the texture

- ii. Reducing distortions in the mapped texture
  - iii. Achieving anti-aliasing
- c. Texture mapping is
  - i. View Dependent (changes with change of viewpoint)
  - ii. View Independent (does not change with change of viewpoint)