

# CMSC427

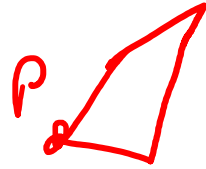
## L09P1: Shading, Rasterization Prelim

Credit: slides from Dr. Zwicker



# Pipeline review

3D pt  $P$   
( $x, y, z$ )



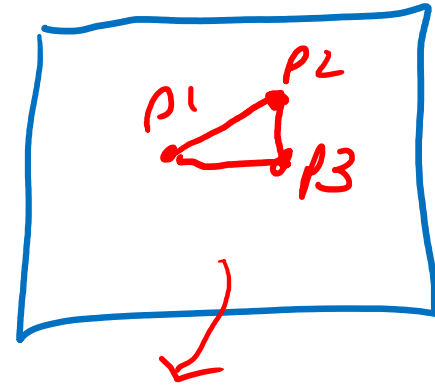
$\Rightarrow$  2D

$\Downarrow$   
Modeling transform

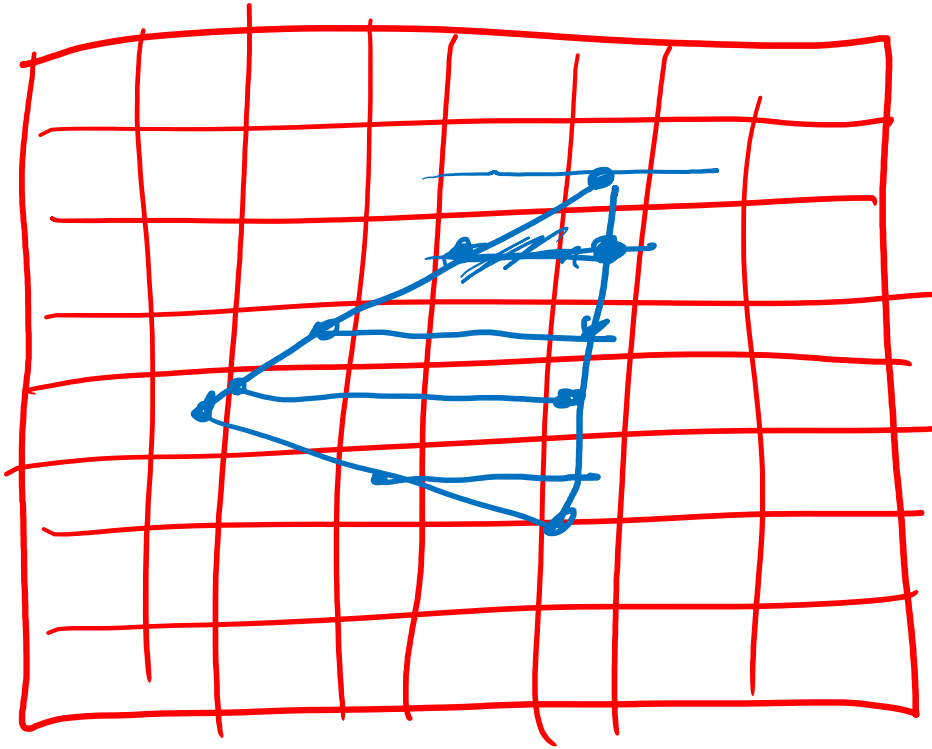
$\Downarrow$   
Camera

$\Downarrow$   
Projection /  $w$

$\Downarrow$   
Viewport



# Triangle rasterization



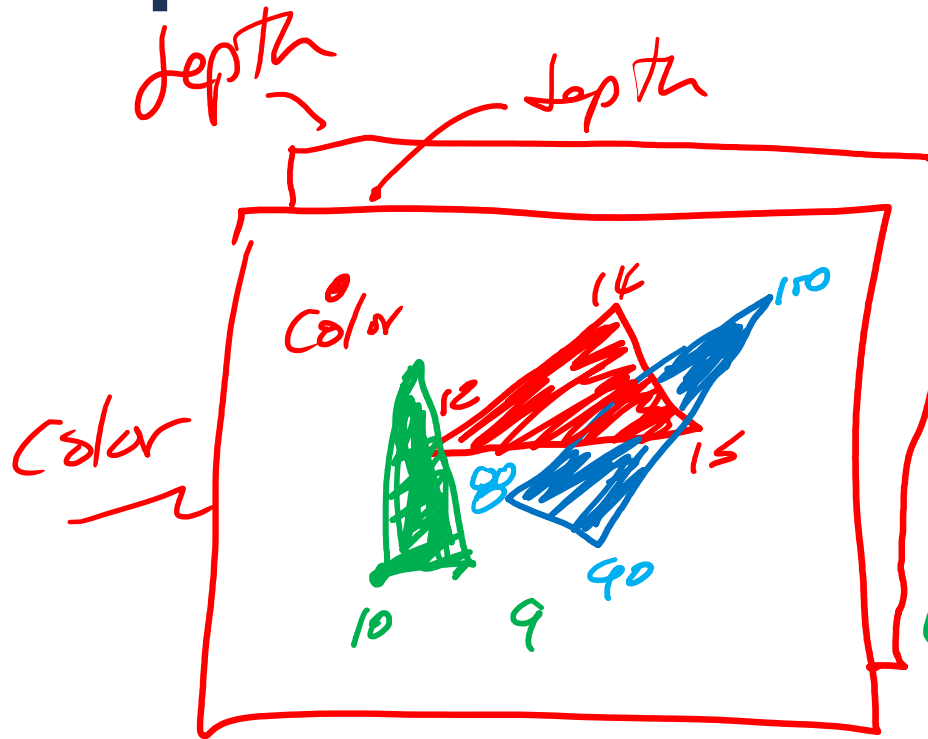
2D pts  
floating pt.

pixels are  
ints

few algorithms



# Depth test: Z-buffer



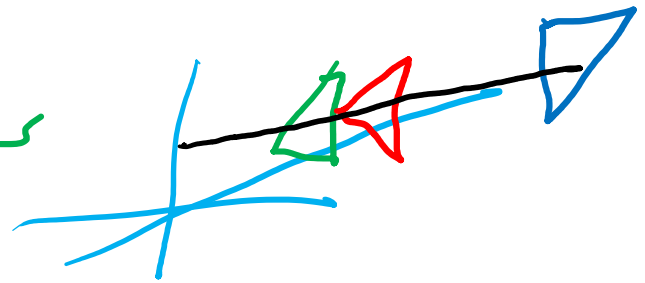
each triangle  
rendered  
separately

Q. which shows?

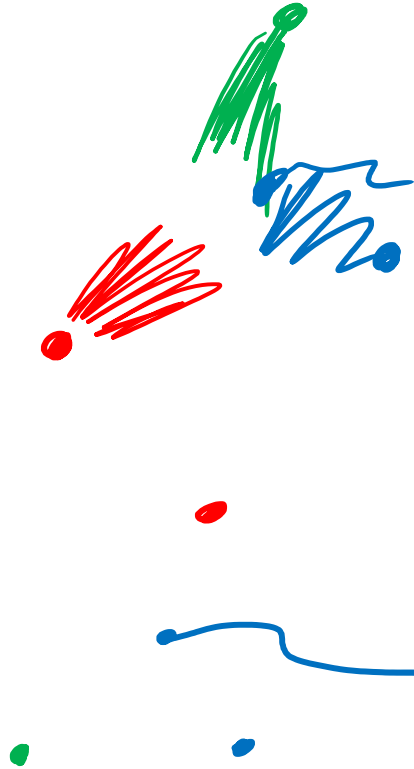
z-buffer

2D x,y coordinates

z value ~ depth



# Coloring triangles



vertices  
— per vertex  
average of the  
vertex colors  
weighted by distance

compute the shading  
per pixel

