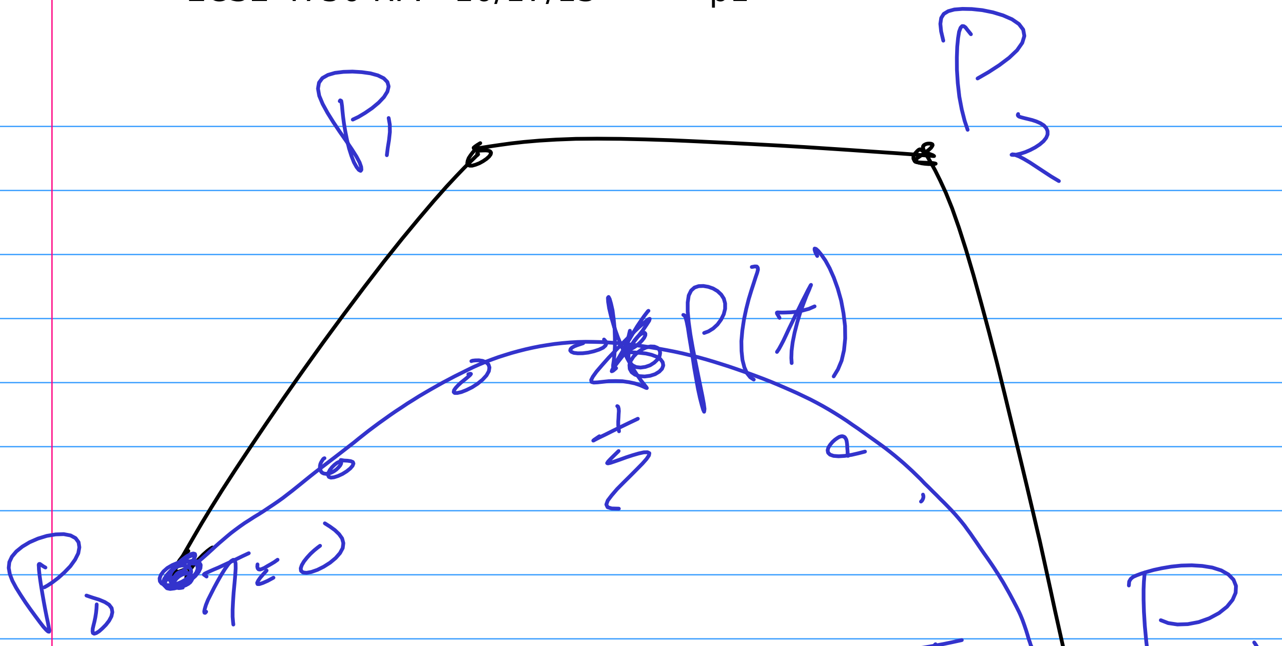
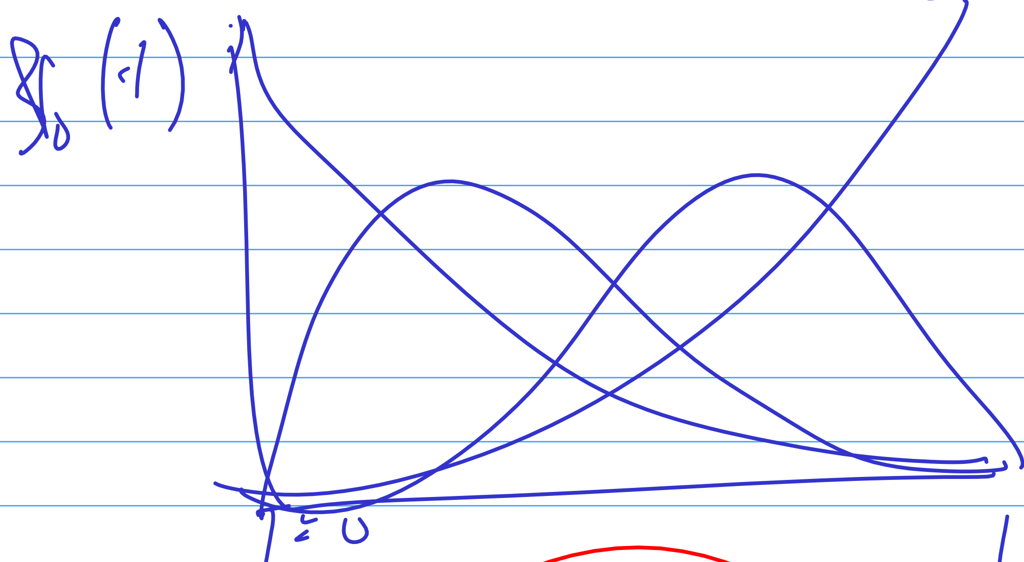
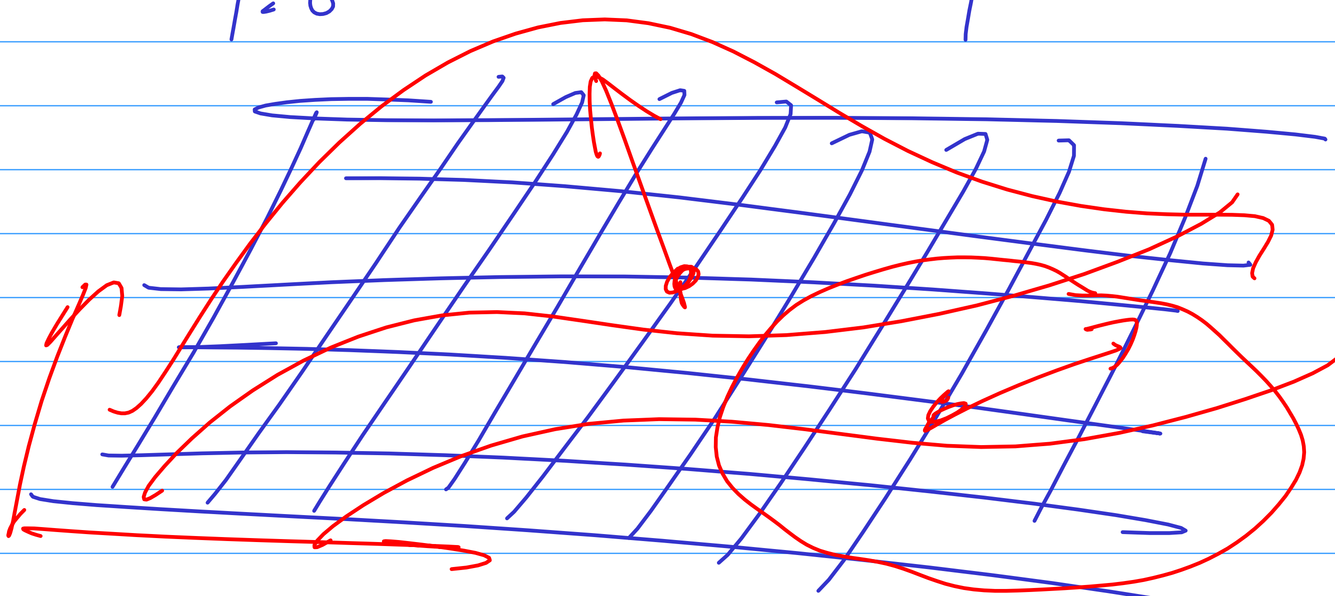
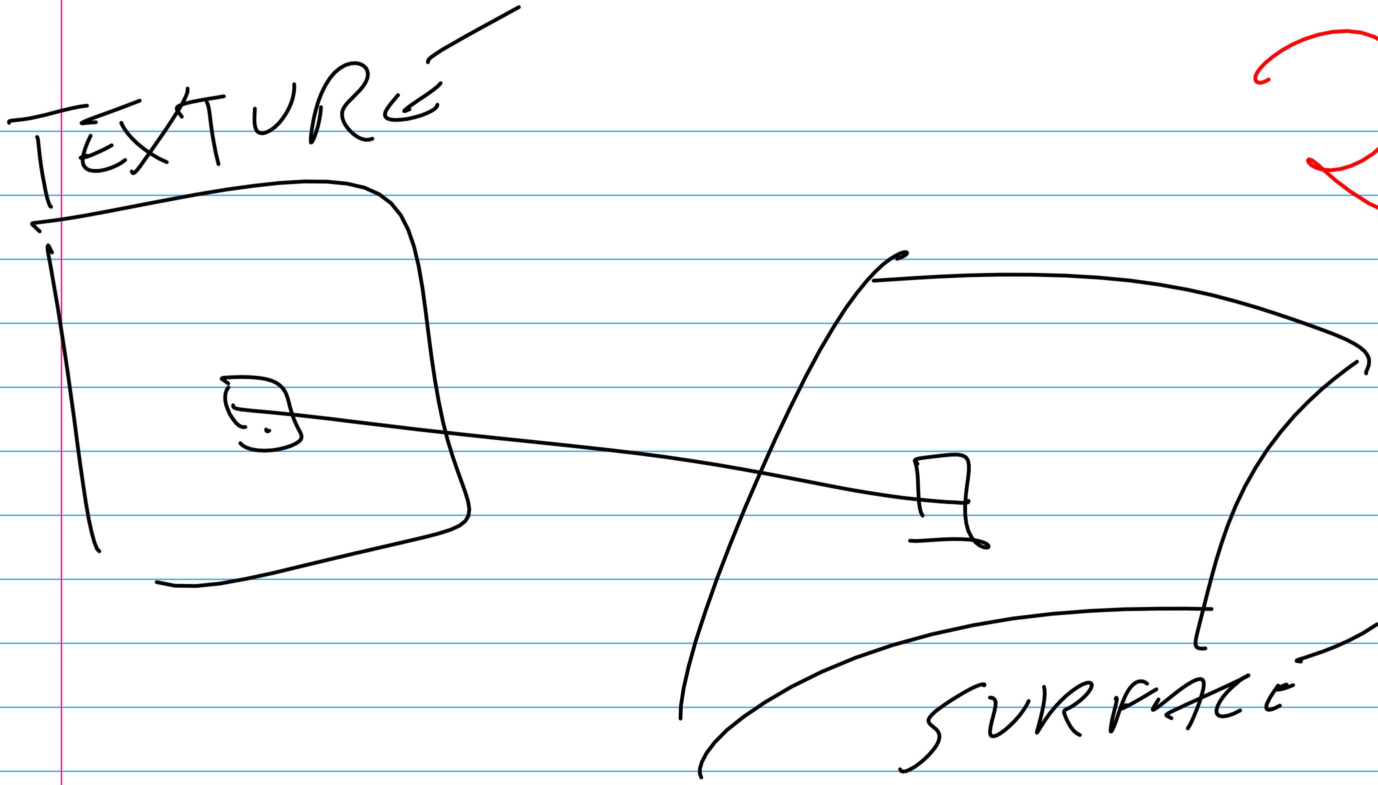
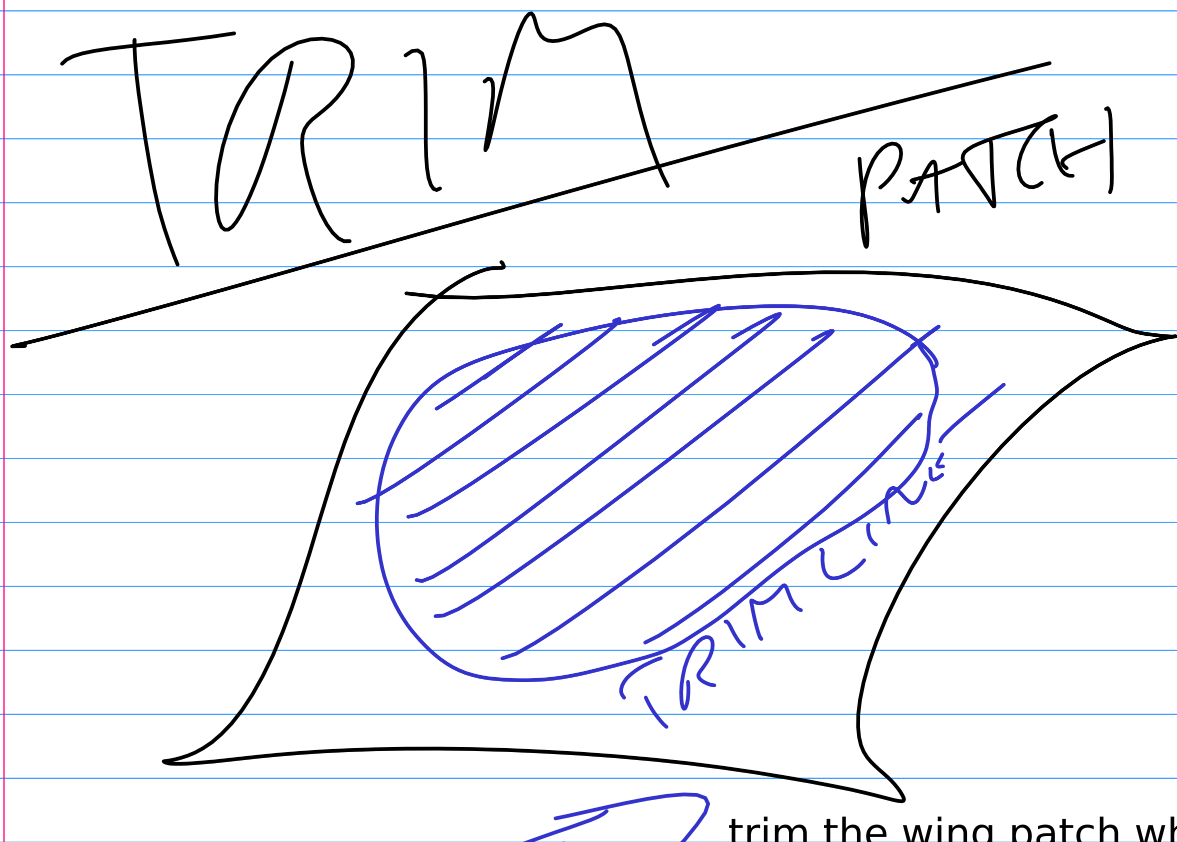


$$P(\tfrac{1}{2}) = \frac{1}{8}P_0 + \frac{3}{8}P_1 + \frac{3}{8}P_2 + \frac{1}{8}P_3$$



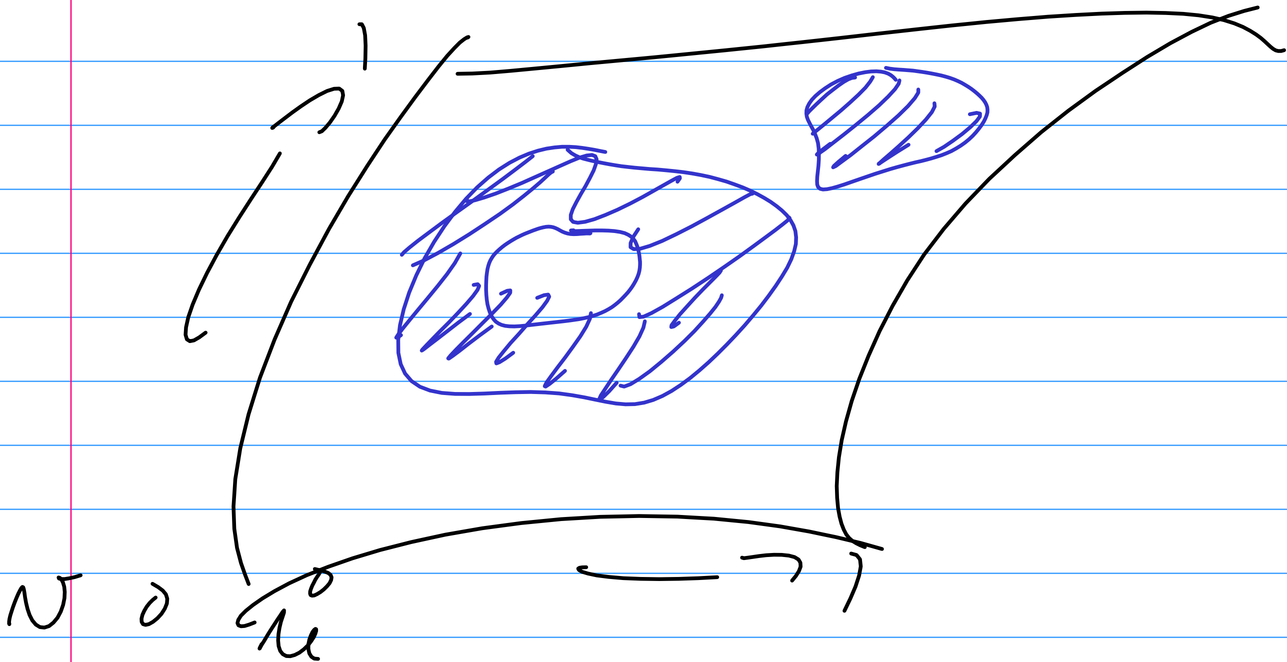


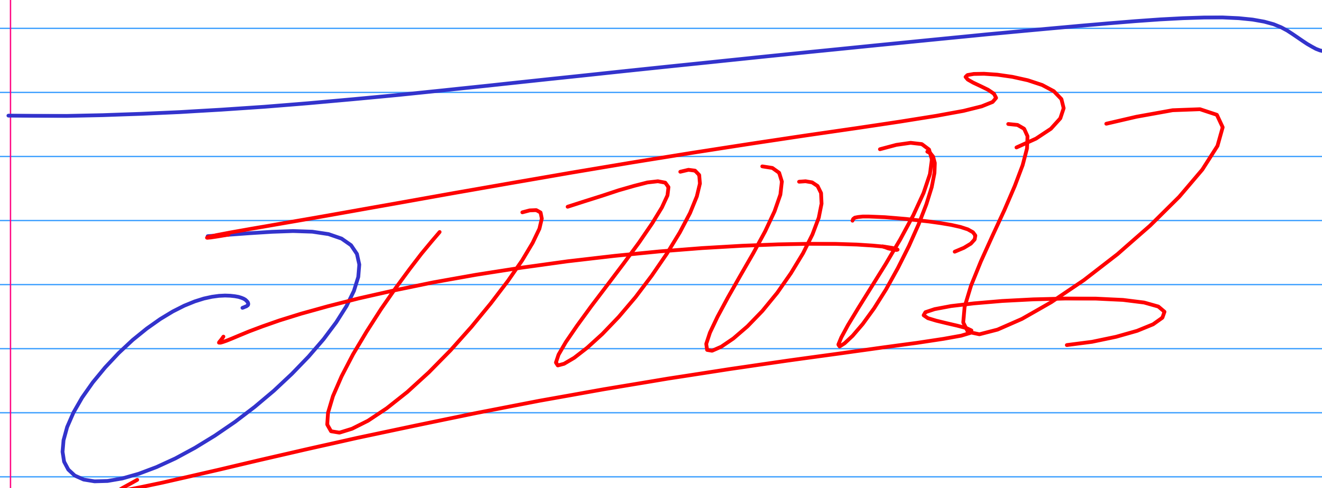




trim the wing patch where it meets the fuselage.

The wing patch has a coordinate system (it's paramatric).
You define the trim curve in that coord system.
The trim curve is itself a NURBS.

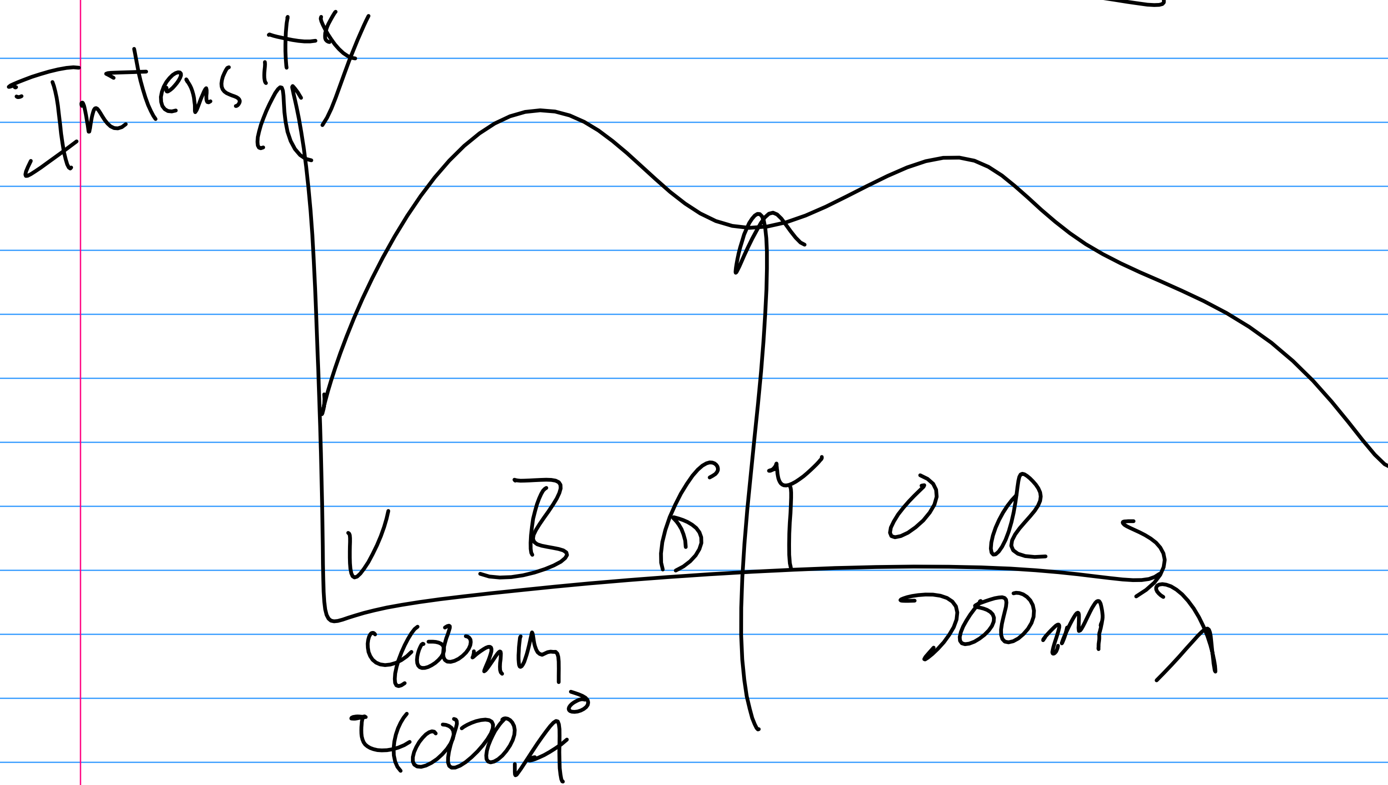




Swept volume

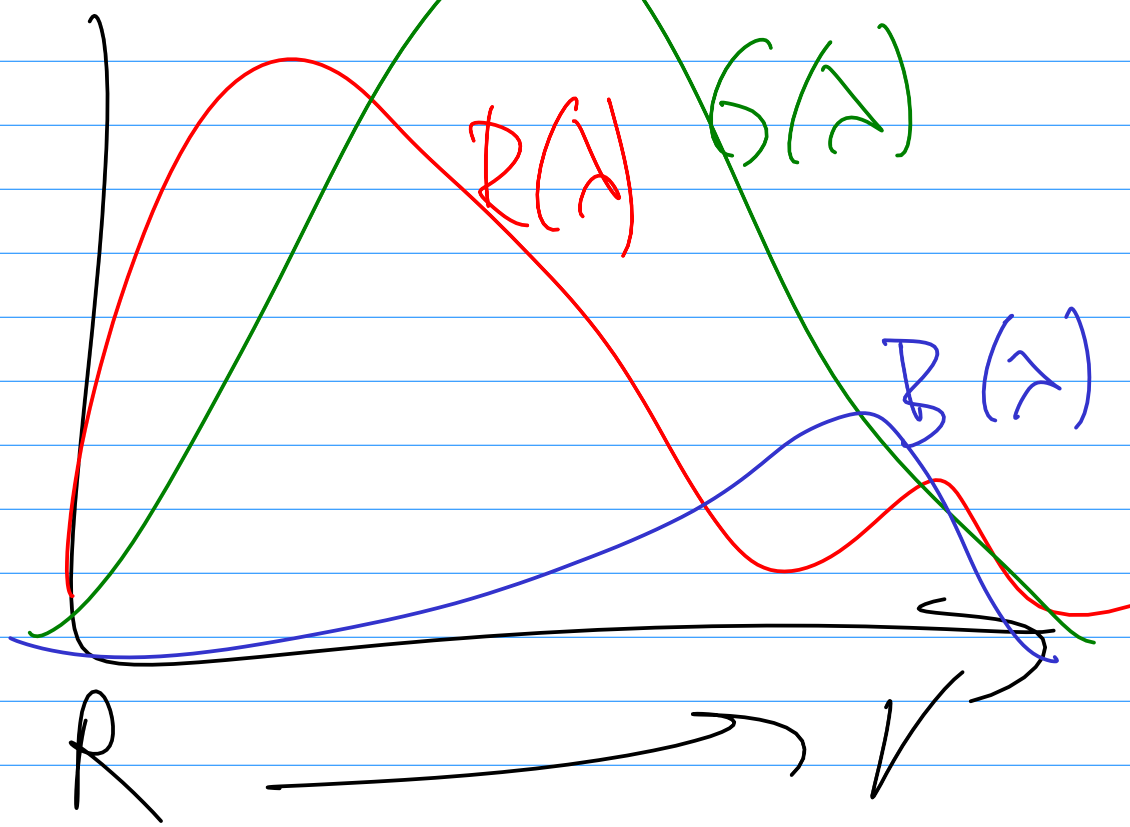
Quadric: 3D quadratic, e.g. paraboloid, ellipsoid, hyperboloids

COLOR



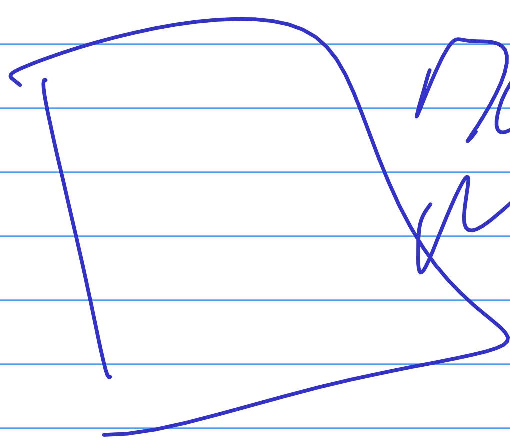
tristimulus theory

CONE SENSITIVITY



$L(\lambda)$ = INCOMING LIGHT

PERCEIVED RED $\int L(\lambda) R(\lambda) d\lambda$

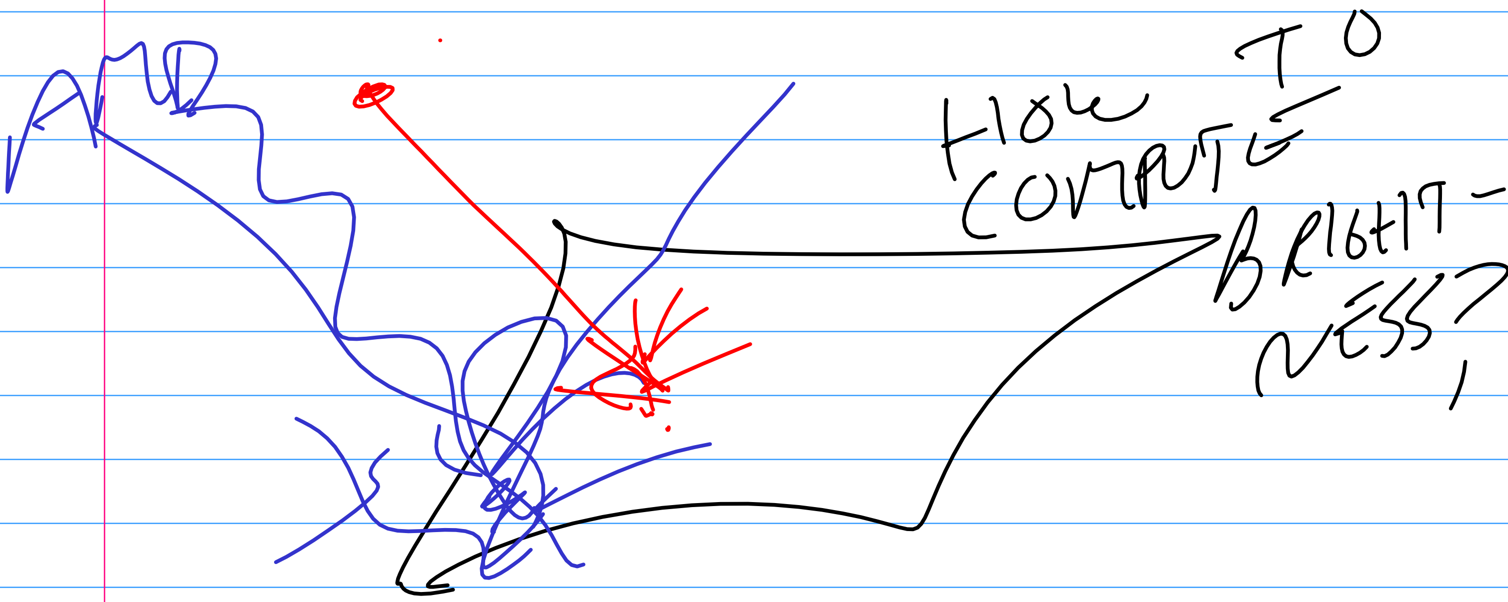


MATERIAL

$M(\lambda)$

REFLECTIVITY @ λ

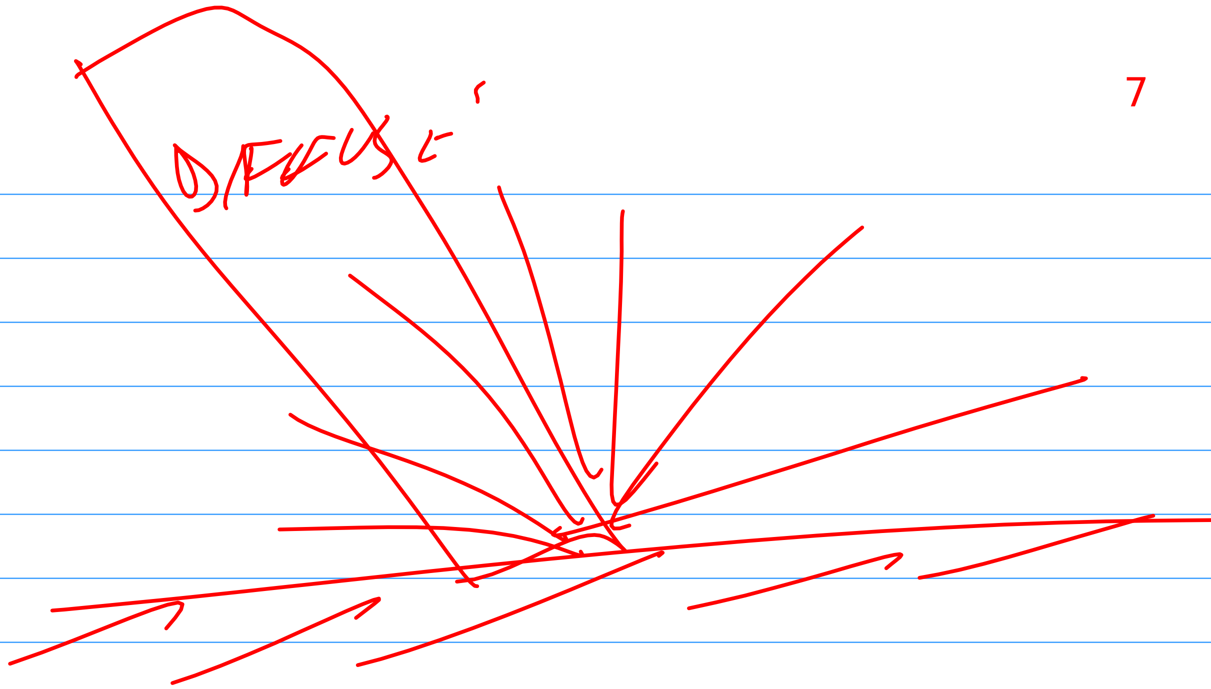
approximate: Ri = incoming red intensity
Rm = material reflectivity to red
red brightness = Ri Rm



3 types of incoming light
- ambient
- diffuse
- specular

3 types of material properties

diffuse light has a source; ambient doesn't.

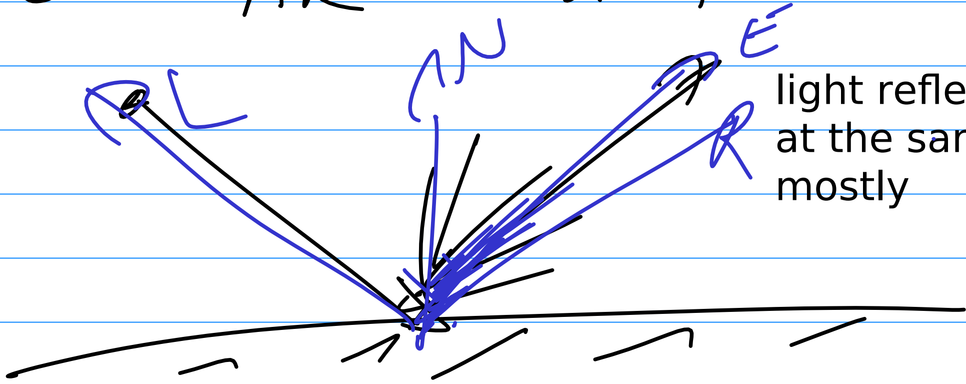


diffuse light reflects out in all directions.
if light source is higher in sky, then it's brighter.

$L \cdot N$

how much the light intensity is reduced.

3 SPECULAR LIGHT

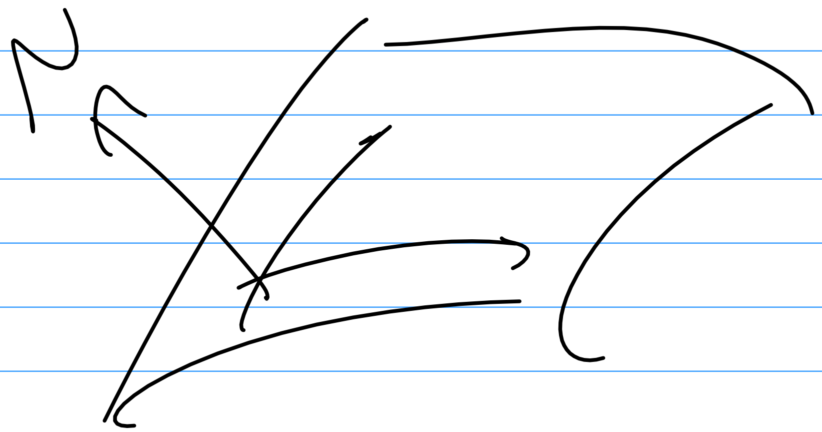


light reflects out at the same angle mostly

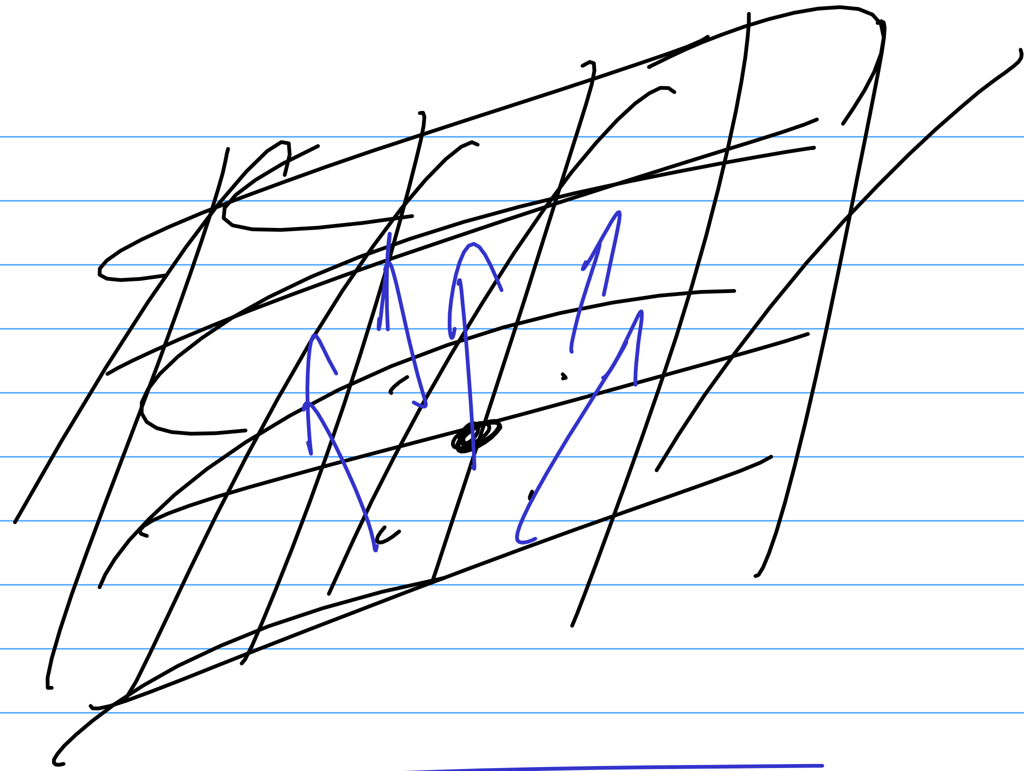
shininess factor: how bunched up is the reflected light.
Material color is 10 numbers.

$(E \cdot R)^f$

You need surface normals for lighting equation.

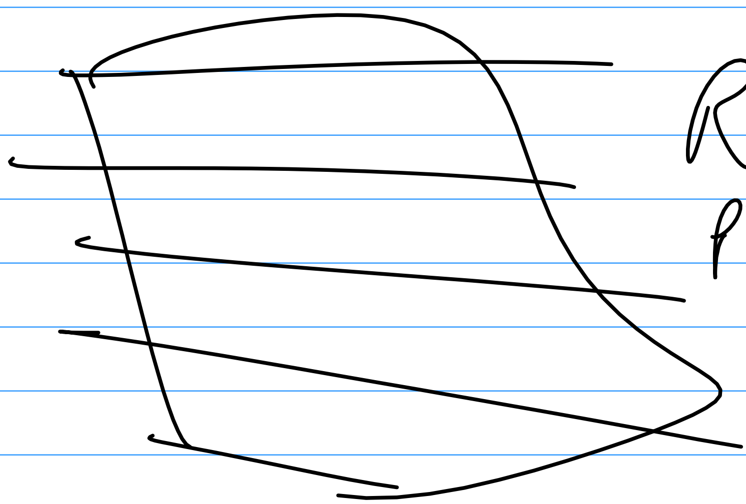


If you care about the front vs the back of a surface, then you must establish a convention, e.g., the vertices go in a positive orientation if you're looking at the front. Then you can color the front and back differently, or just make the back to be black.



CIE CHROMATICITY

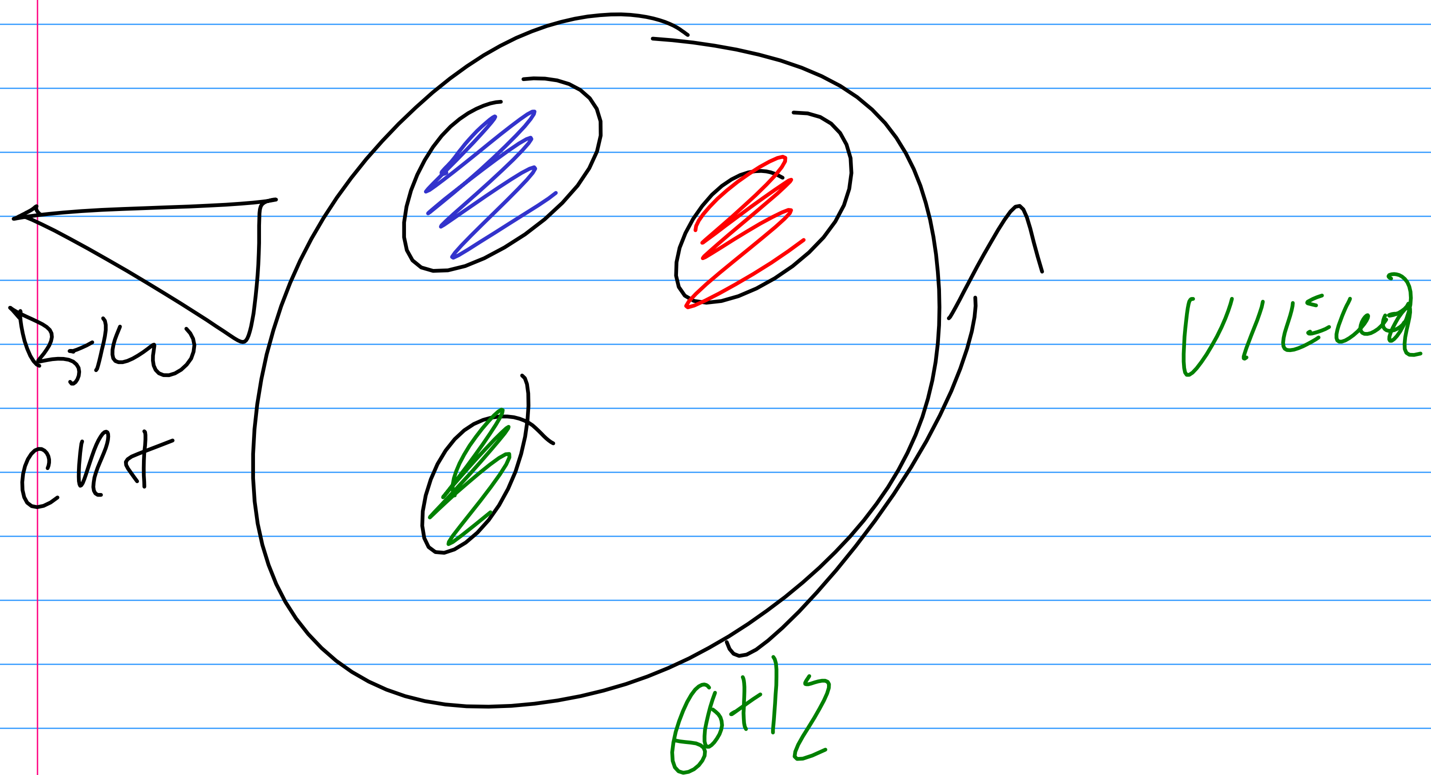
Never Twice the Same Color
SECAM =? System Essentially Contrary to the American Method



RASTER SCAN

PHILO T FARNSWORTH

MECHANICAL COLOR TV



Additive: Add color to black
Subtractive: Subtract color from white.