01-A-04

# Convex Hull

## Convexity

## - Color Space

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# U = 2*X + 1*Y

- Represent paints by planar points

  X = (10, 35)

  Y = (16, 20)

  Z = (07, 15)

- Mixing ratio for U(12, 30)

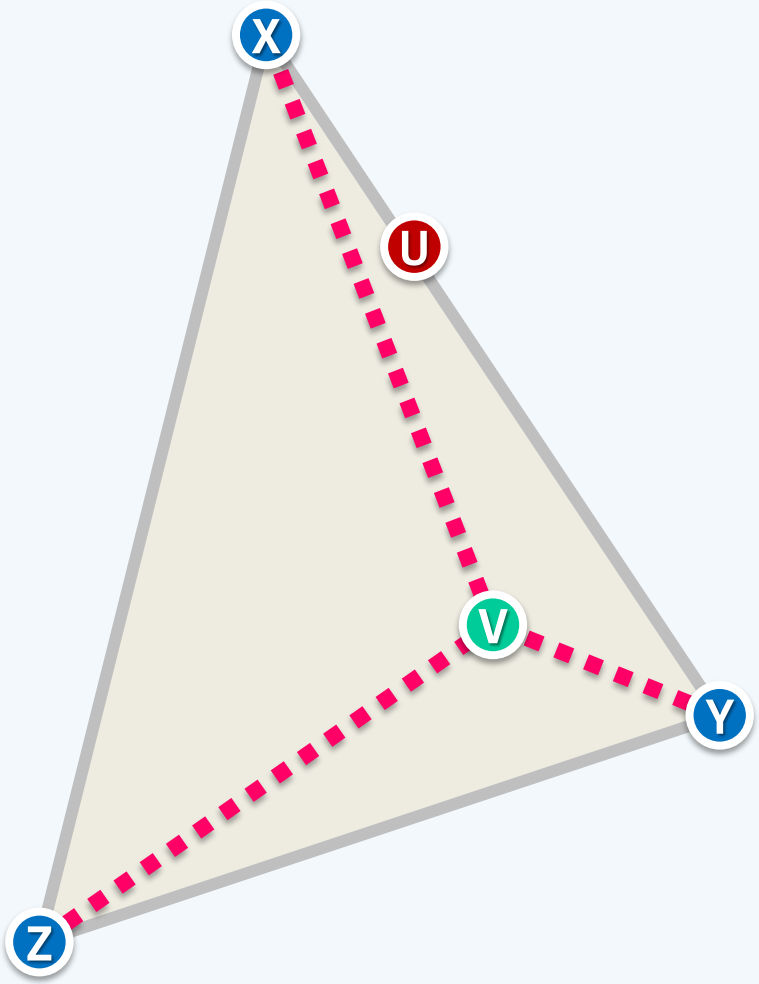
  = X : Y

  = 1/|XU| : 1/|YU|

  = 2 : 1

- U can be produced from X and Y iff

  it lies on the **segment XY**



$V = 1*X + 3*Y + 1*Z$

❖ Mixing ratio for V(13, 22)

= X : Y : Z

= $S_{VYZ}$ : $S_{VZX}$ : $S_{VXY}$

= 33/2 : 99/2 : 33/2

= 1 : 3 : 1

❖ V can be produced from X, Y and Z iff

it lies in the **triangle XYZ**