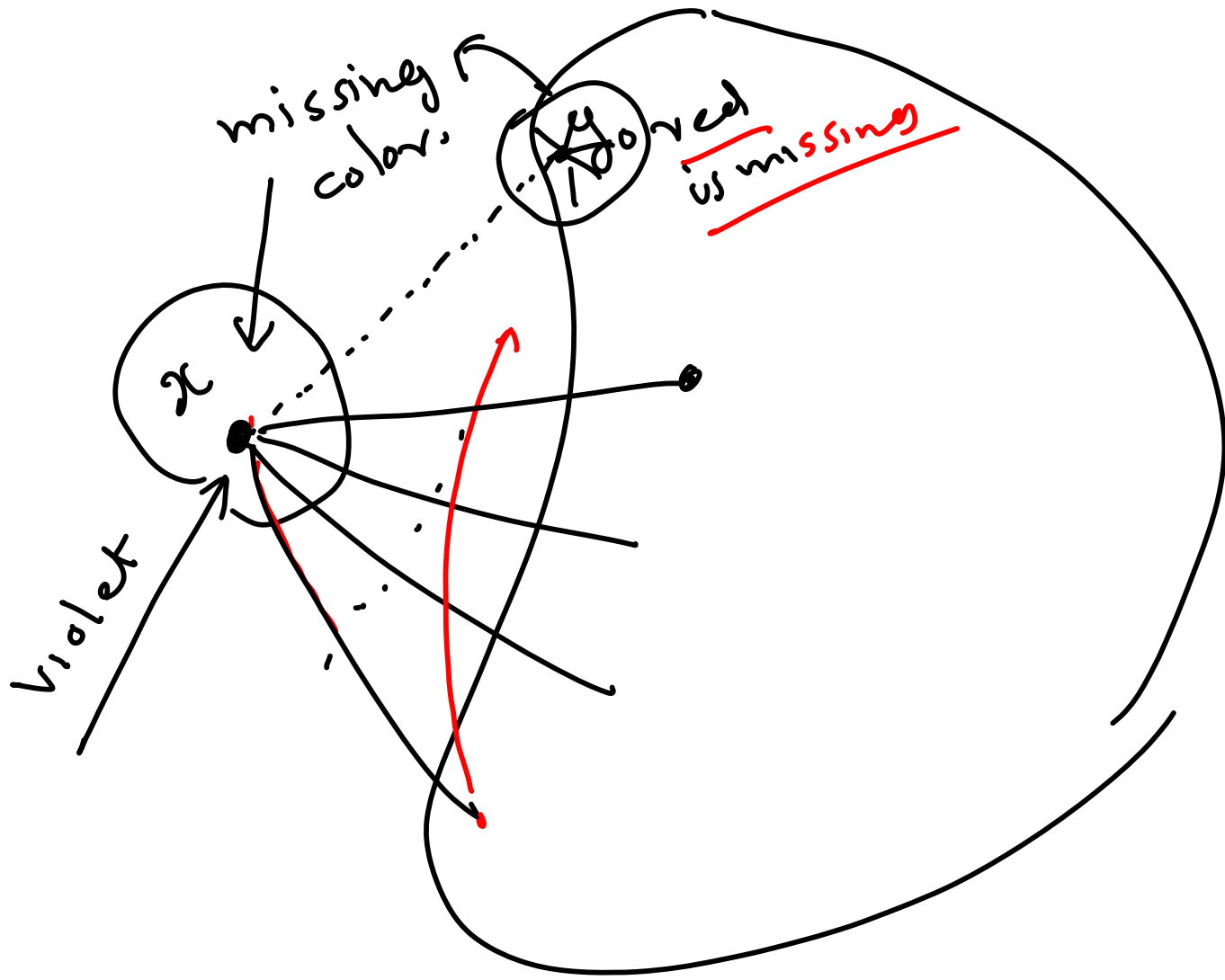
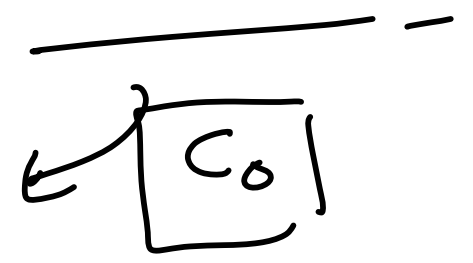
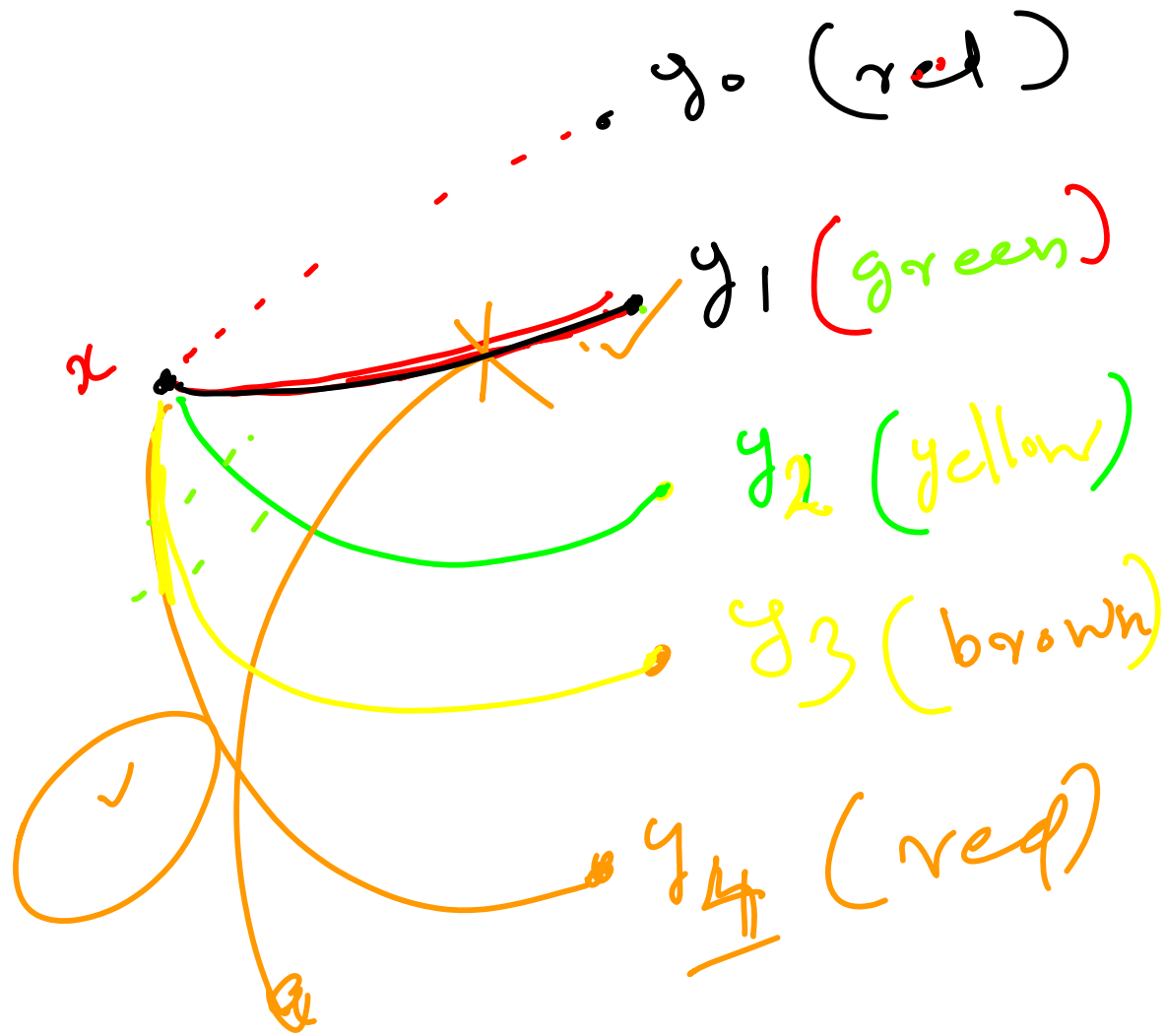


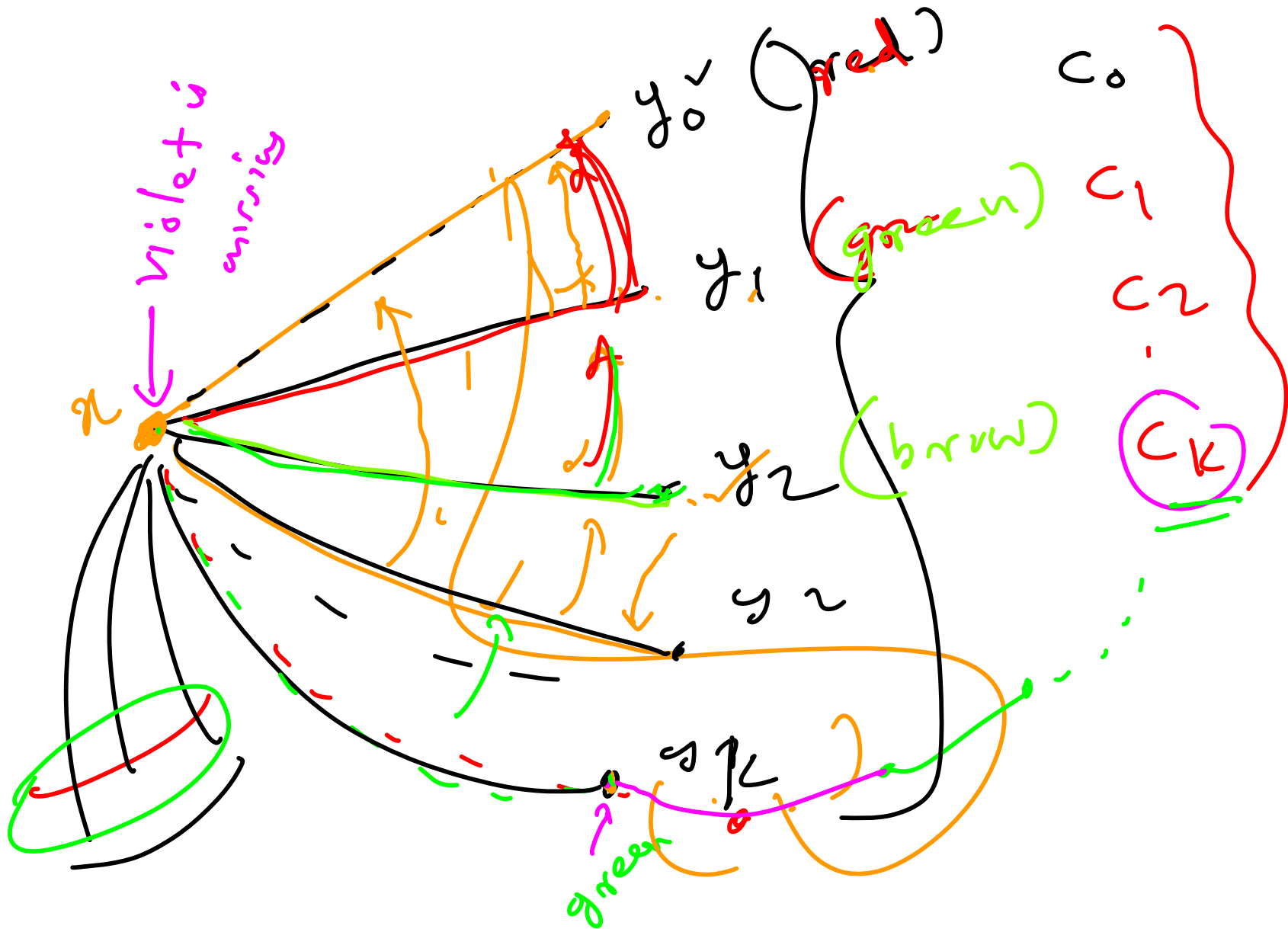
" $\Delta + 1$ "

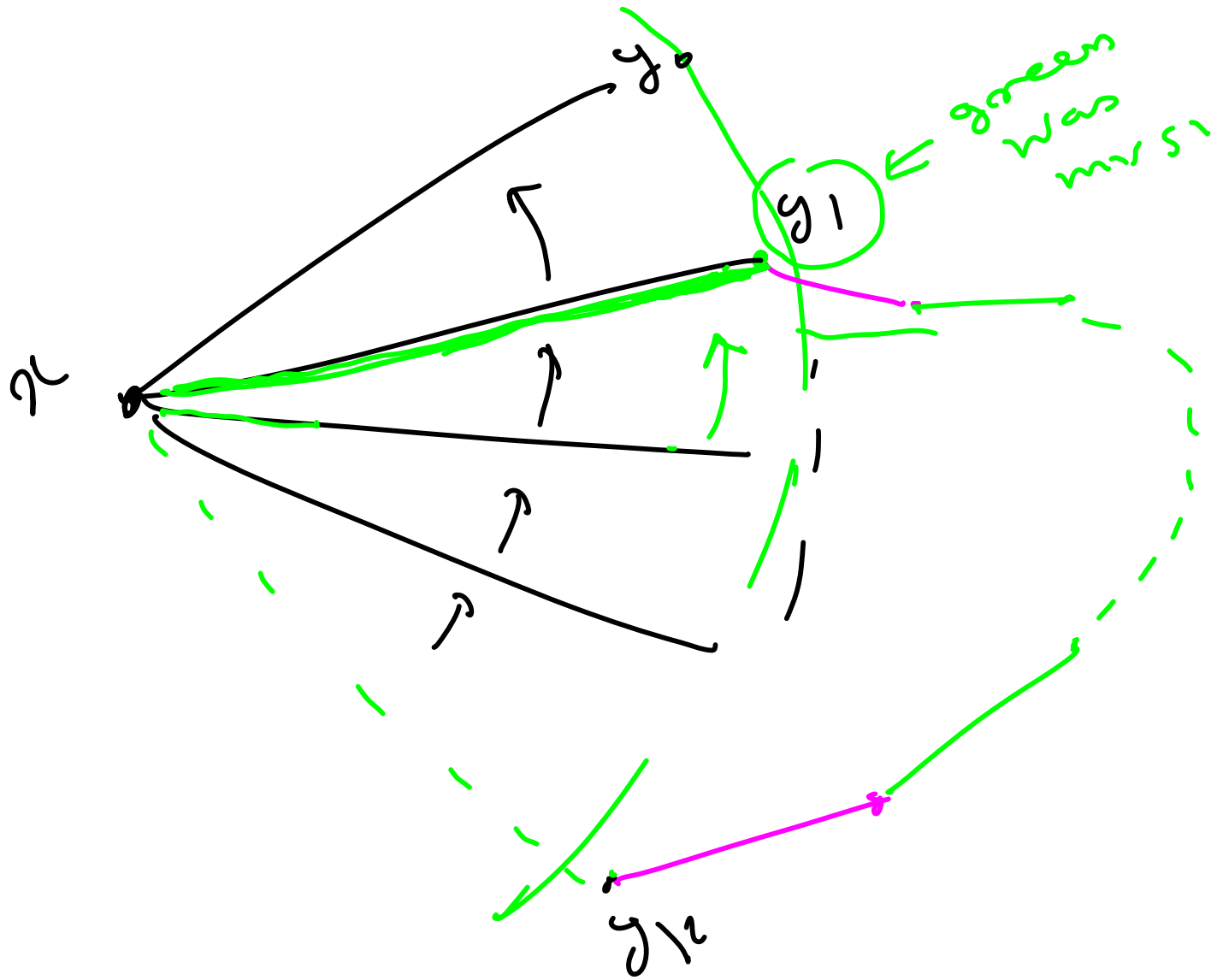


$$G - x y_0 = G_1$$





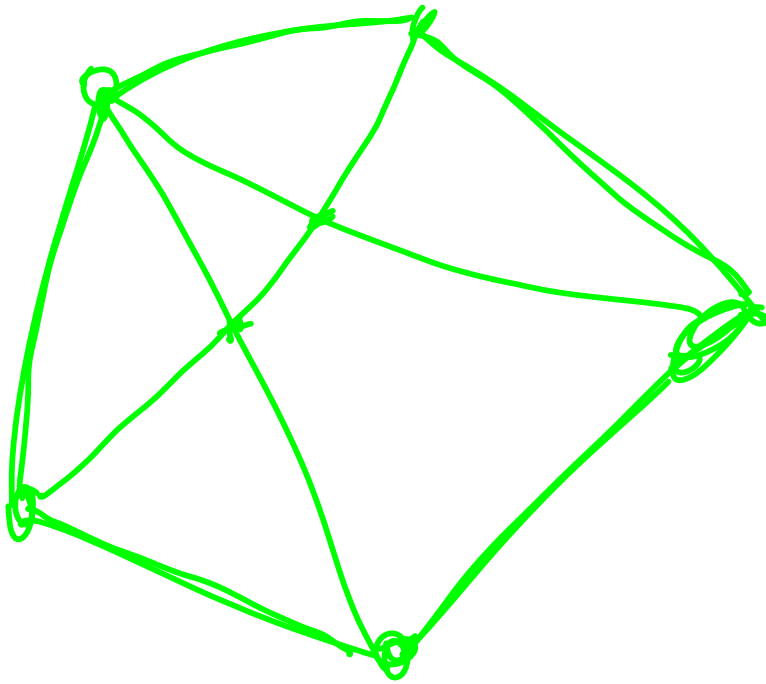


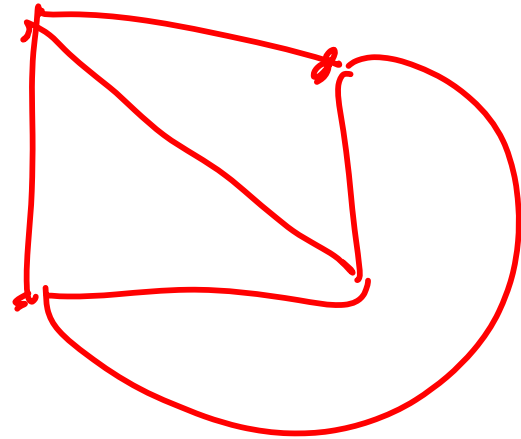
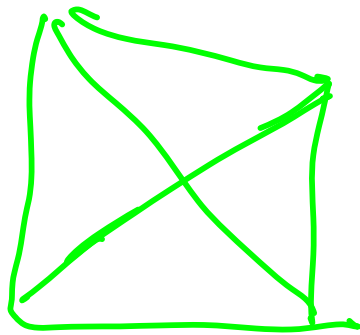


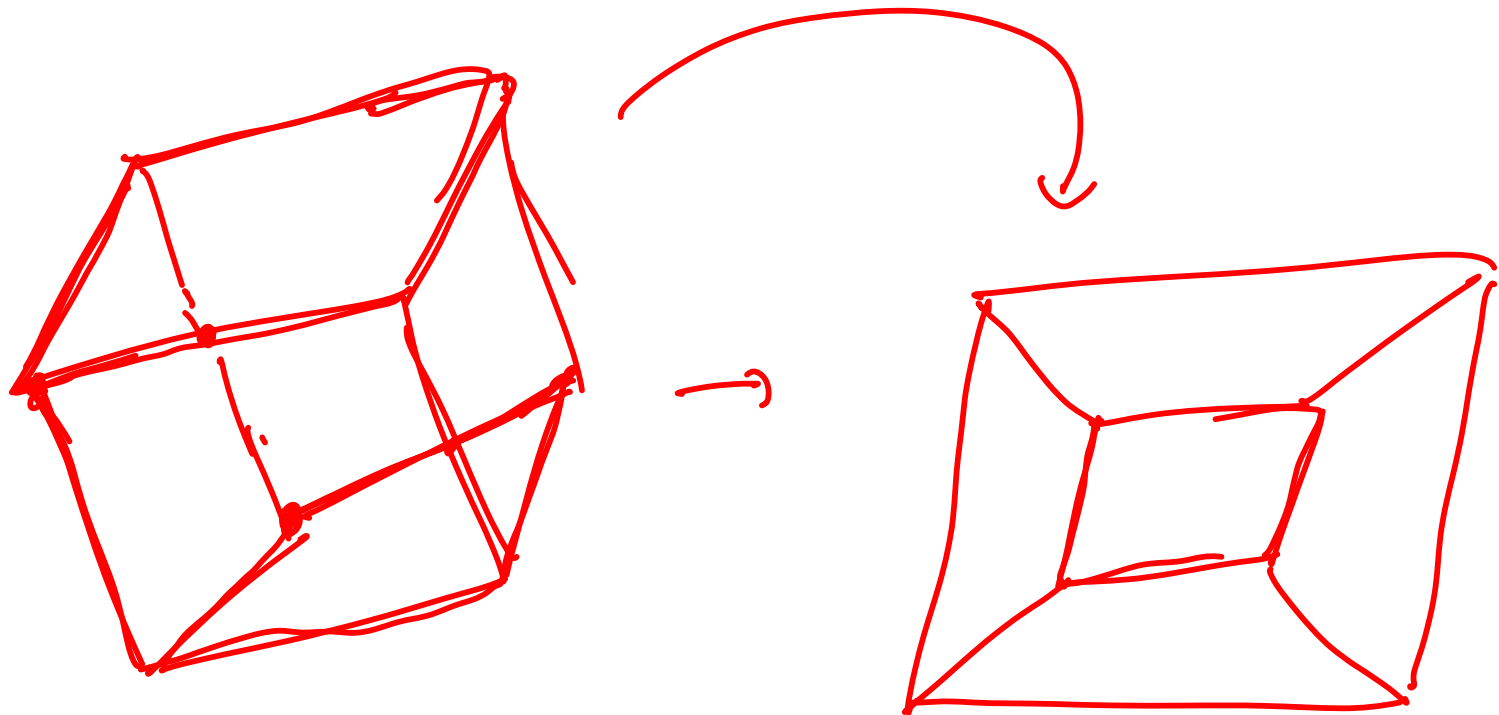
G edge
colored

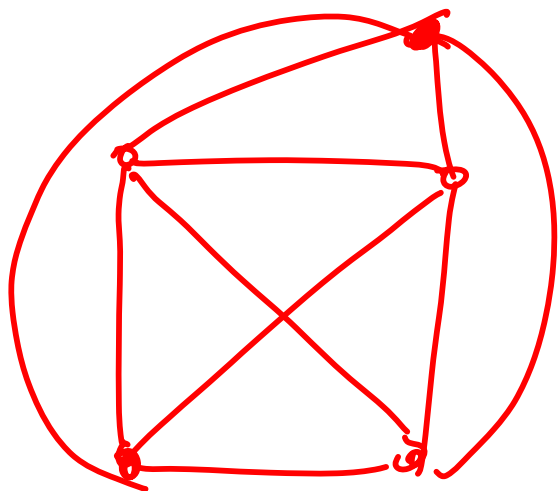
using at most

$\Delta + 1$ colors

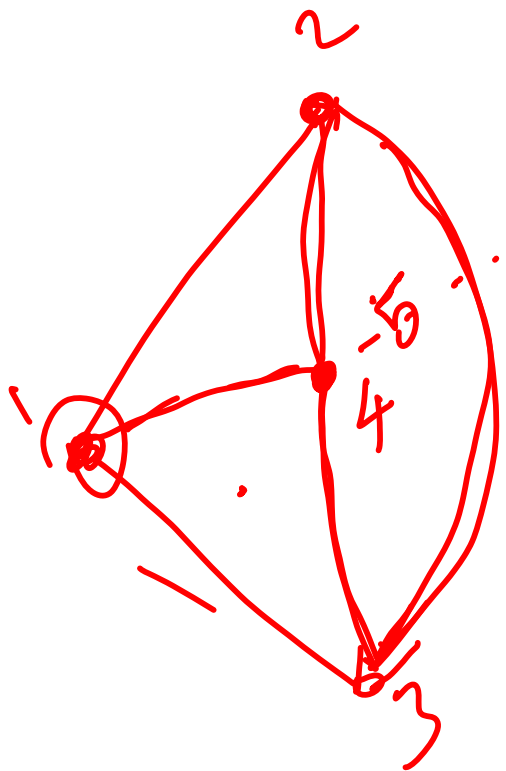








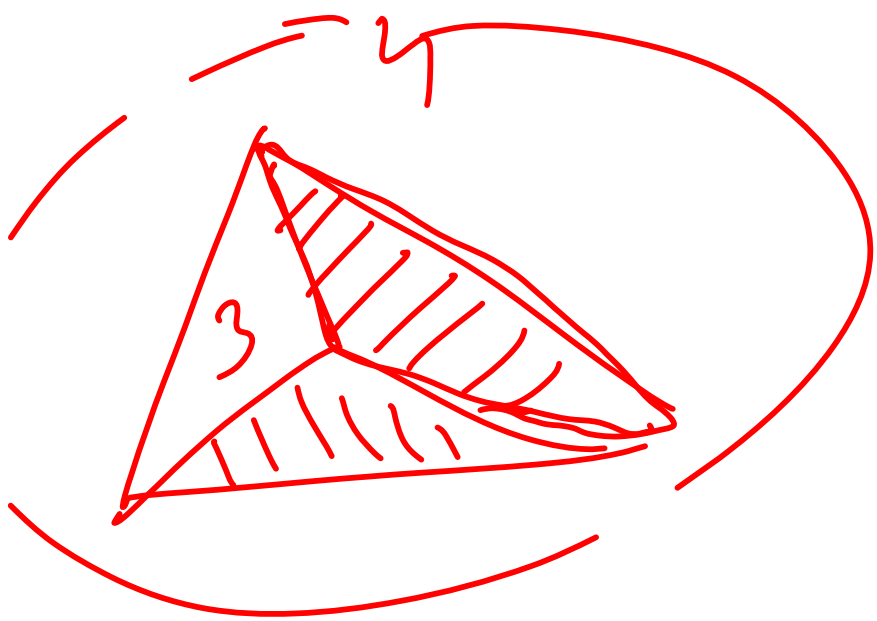
K_5

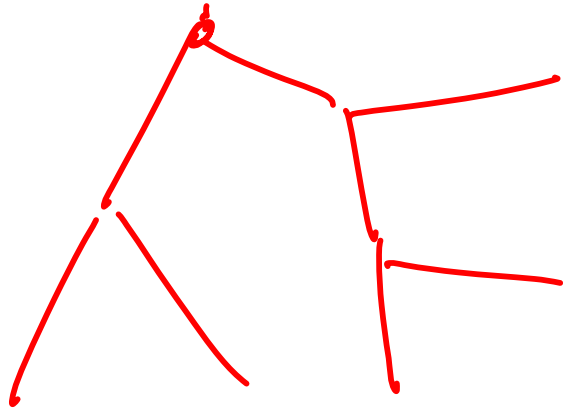


K_5 ✓

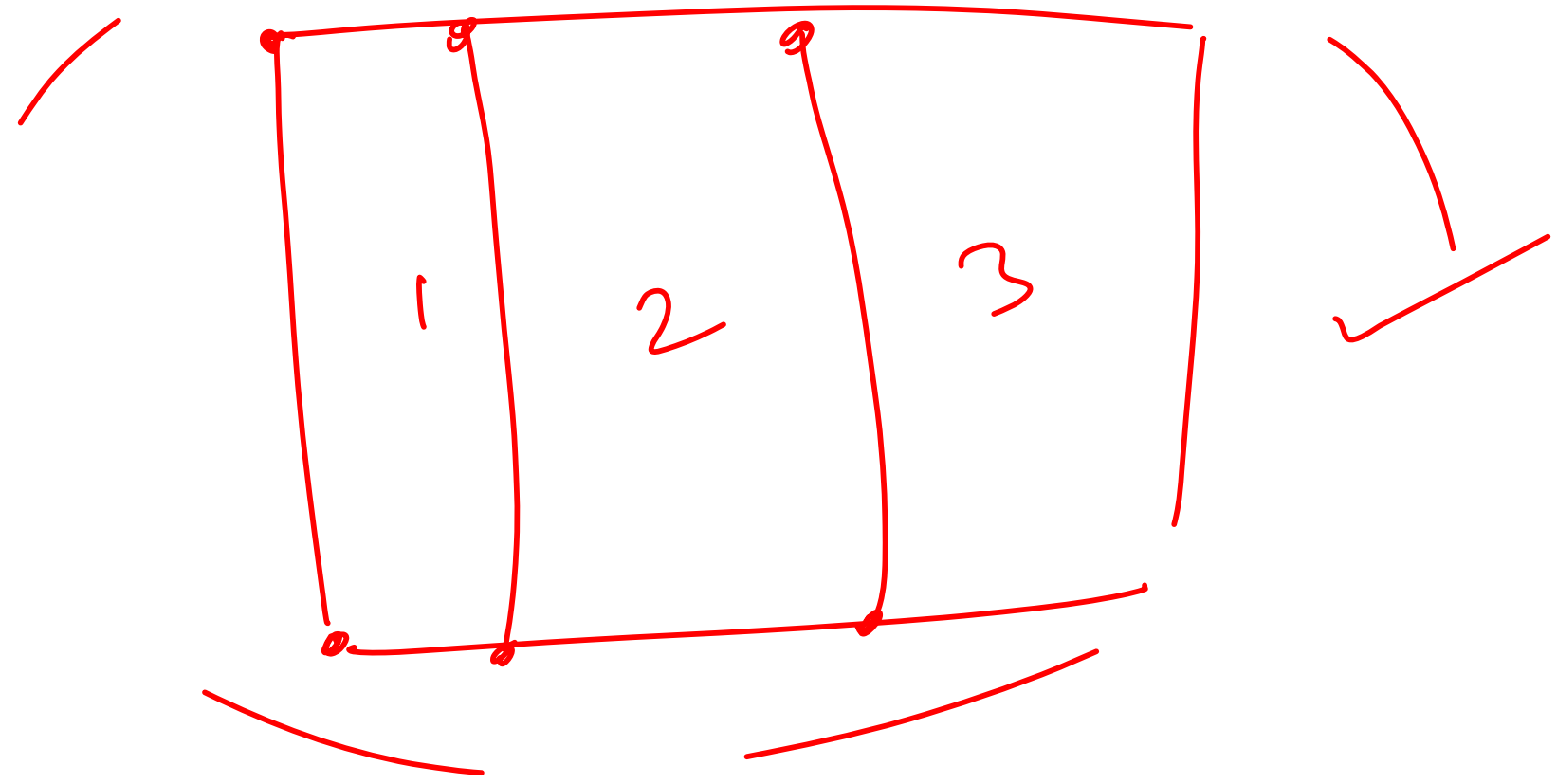
$K_{3,3}$ ✓

"9"

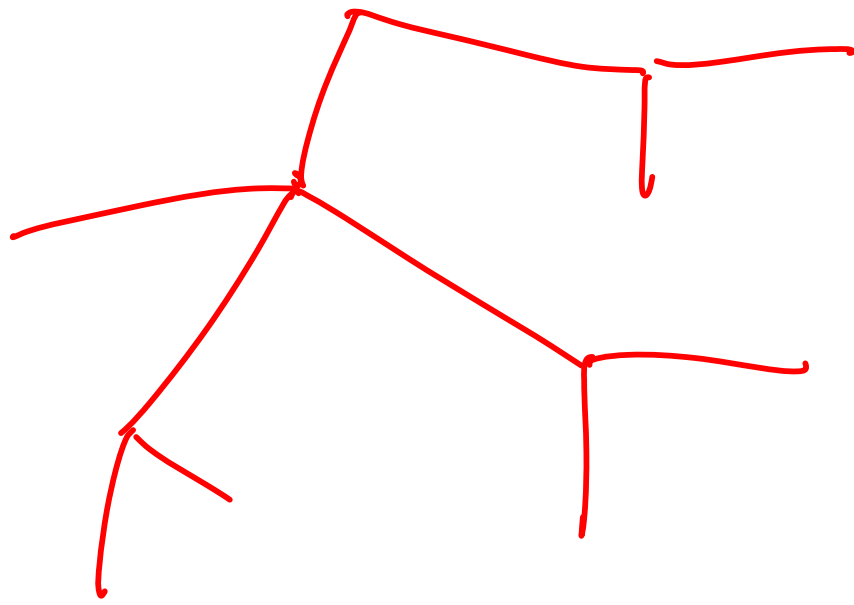


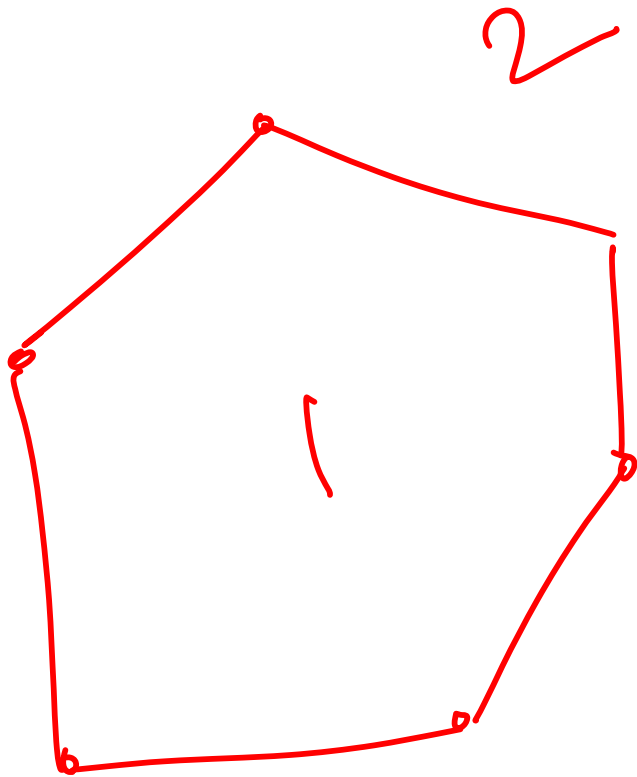


- 4



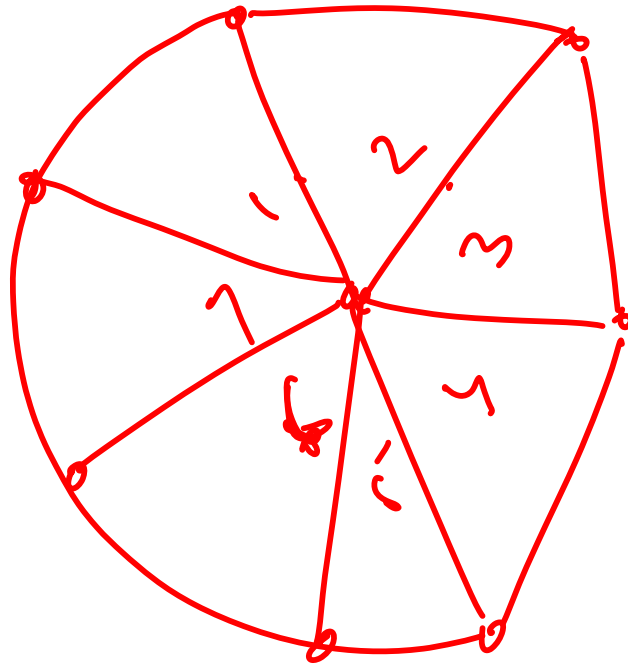
$$\underbrace{5}_{-} - \underbrace{m}_{-}^{(n-1)} + \underbrace{l}_{-} = \underline{\underline{2}}$$





$$m = n$$
$$\cancel{n - n} + \overset{2}{\underline{\underline{1}}} = 2$$

✓



$$f \quad \mu = 8$$

$$14$$

$$8 - 14 + 8$$

$$= \underline{\underline{16 - 14 = 2}}$$

5/11

$n-1$

$$n - (n-1) + 1 = 2$$

$n, m+1$

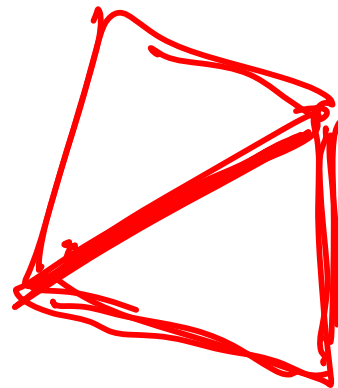
$$n - m + 1 = 2$$



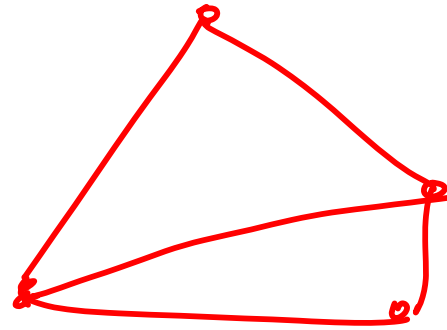
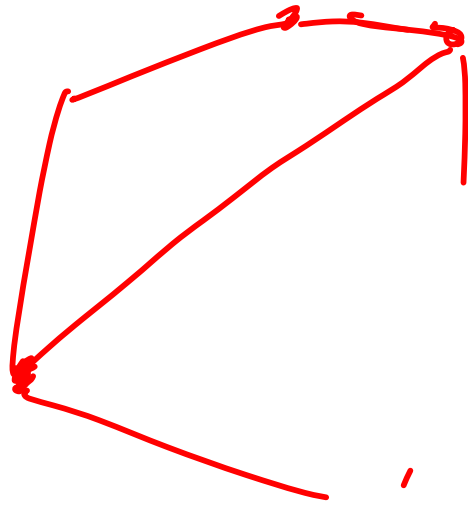
no. of edges in a planar

$$\text{graph} \leq 3n - 6$$

$$n - m + l = 2$$



$$m \Rightarrow \frac{3l}{2}$$



$$m = \frac{3l}{2}$$

$$\frac{2m}{3} = l$$

$$h - m + l = 2$$

$$l = \frac{2m}{3}$$

$$h - m + \frac{2m}{3} = 2$$

$$h - \frac{m}{3} = 2$$

$$3h - m = 6$$

$$m = 3n - 6$$



